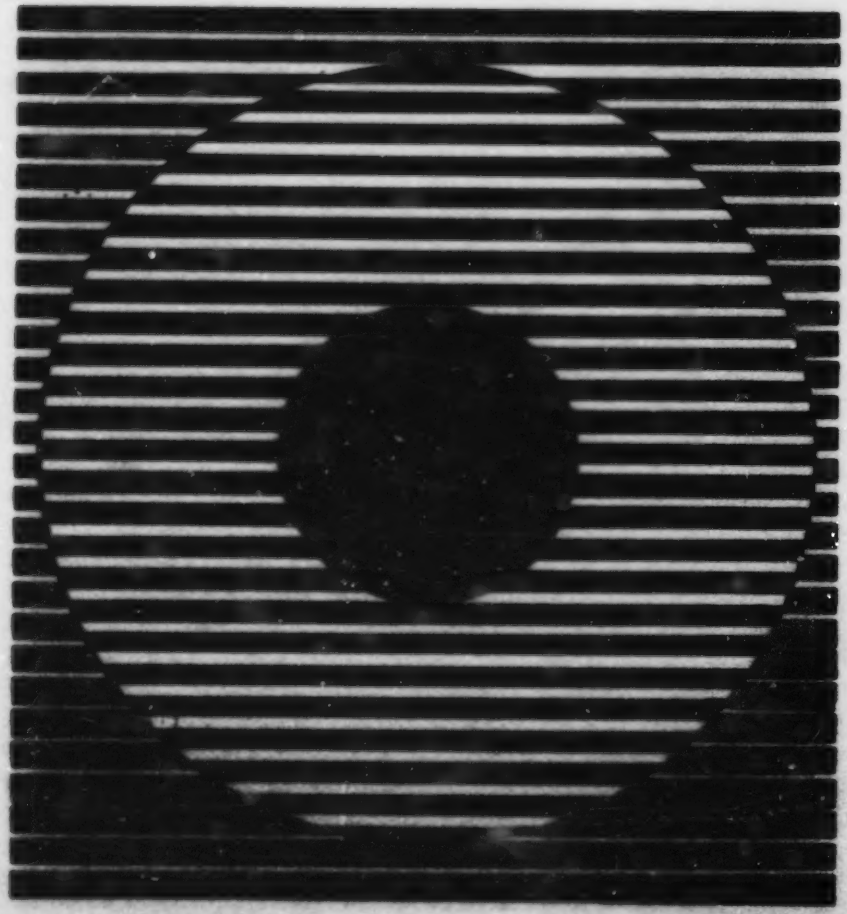
Economic Aspects of Interest Arbitration

Ontario
Economic
Council

Morley Gunderson

Discussion Paper Series



ECONOMIC ASPECTS OF INTEREST ARBITRATION

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1
INTRODUCTION

Changes in the Ontario public sector during the last twenty years have brought policymakers face to face with the problems posed by bargaining disputes. The development of a highly unionized public sector has made collective bargaining the norm for determining wages and other conditions of employment. As the necessary corollary of collective negotiations, policymakers have had to confront a public concerned greatly, if with varying degrees of intensity and legitimacy, about the occurrence of strikes as well as the level of wage settlements in the public sector. Therefore, the search has been on for effective procedures to settle wage disputes. The hope is to find a procedure that provides a substitute for the strike but also provides an acceptable way of determining wages. The leading, if still controversial, alternative has been the use of interest arbitration.[1]

The process of interest arbitration fashions a collective agreement out of the representations made by a union group and the associated employer. The arbitrator's award settles the parties' bargaining disputes by imposing a legally binding contract on both employer and employees. This process, which uses a seemingly judicial setting to decide essentially economic questions, raises many issues for both policymakers and the public.

Among these issues are the effects on the parties' incentives to negotiate their own agreement, the types of guidelines to be used by arbitrators in resolving disputes, and the nature of the resulting awards. The level of public concern suggests that these and other major issues related to interest arbitration will be with us for some time.

The purpose of this report is to explain interest arbitration, define its various forms, document its prevalence, and analyse its impact on the bargaining process as well as on the outcomes and inputs of that process. Particular attention is paid to the various criteria arbitrators use in mak-

ing their awards. Proposals to facilitate and improve the arbitration process are also discussed. Although much of the descriptive material pertains to Ontario, the provincial scene is placed in its national and international context.

Any evaluation of interest arbitration is made difficult by the fact that the relevant literature comes from a variety of disciplines, including industrial relations, economics, law, organization behaviour, sociology, psychology, and political science. While this report emphasizes the industrial relations and economic aspects of arbitration, it also attempts to relate some of the other literature to the topic at hand.

It builds upon earlier Canadian works by Downie (1979) and Anderson (1981b), both of which review the theoretical and the empirical literature as they focus on the effects of interest arbitration. Another important source is material relating to two recent Canadian conferences (Sack 1981; Weiler 1981), which deals extensively with the legal and practical aspects of interest arbitration. An earlier task force study by Brown (1970) also emphasizes its legal aspects, and another by Arthurs (1970) discusses arbitration as an alternative to the strike in essential services. Practitioners' views, especially on the process of interest arbitration, can also be found in the annual reports of the Society of Professionals in Dispute Resolution. International comparisons are made by Loewenburg et al. (1976), and the peculiarities of arbitration in the federal public service are discussed by Barnes and Kelly (1975) and by Saunders (1980), who also analyses the alleged effect of arbitration on wage inflation. The relationship of aggregate money wage changes to various wage-determination processes, including arbitration, is examined in Auld et al. (1979, 1981).

As one might surmise from this brief survey, the literature ranges from the purely descriptive and practical to the extremely theoretical, and some of the latter involves very sophisticated statistical and econometric techniques. Naturally, any synthesis of this literature runs the risk of being too simplistic for some readers and too analytical for others. The compromise here is to provide some basic descriptive background material and to deal with the more analytical issues in a relatively non-technical fashion. The emphasis is on synthesis and the elaboration of some key issues, rather than on innovation, comprehensive treatment, or the provision of a primer for those uninitiated in industrial relations.

A final caveat. Although Canada has a longer history of and more extensive current experience with public-sector collective bargaining than

does the United States, the phenomenon was not widespread here until the 1960s and 1970s. Thus, the extensive use of arbitration as a dispute-resolution procedure is relatively recent, and the field is still in a state of flux. It would be premature to attempt any definitive or final statement of the state of the science or - as more would phrase it - the art of interest arbitration.

2

FORMS OF INTEREST ARBITRATION

Because interest arbitration is a relatively new and highly complex phenomenon, it is helpful to preface any discussion of the issues involved with careful definitions of terms. Interest arbitration is distinct both from other forms of arbitration and from other types of bargaining interventions. Also, interest arbitration itself occurs in various forms. The first sections of this chapter define interest arbitration and distinguish the various forms of arbitration. The following sections develop the major point of the chapter: that different forms of interest arbitration have major behavioural implications for the effects of arbitration.

Interest arbitration: basic definitions

Conventional interest arbitration

Conventional interest arbitration is the most basic system of arbitration used by negotiating parties who find that they cannot reach a settlement by themselves. When the negotiators have reached an impasse, they submit their unresolved issues to an arbitrator (or arbitration panel) who conducts a judicial-like hearing. At the arbitration hearing, the parties argue the merits of their respective positions before the arbitrator. Typically, they submit legal briefs that describe their evidence and arguments pertaining to issues such as wages, benefits, and working conditions. The hearings, in some ways, are an extension of negotiations. The main difference is that at the conclusion of the hearings the arbitrator will take the record of the hearings and all the submitted evidence and will fashion an award. The arbitrator's award will constitute the collective agreement, or labour contract, and will be binding on the parties. Thus, interest arbitration serves as a way to settle bargaining impasses that

might otherwise lead to strikes.

A fundamental point is that interest arbitration is a substitute for the strike, not for negotiations. Interest arbitration is invoked only after the parties have engaged in collective bargaining negotiations. Moreover, just as most contracts are negotiated without a strike, the presumption is that, where arbitration is the alternative, most negotiators should reach agreement without resorting to an arbitration hearing. For interest arbitration to operate effectively, it should not reduce the parties' incentives to make the compromises and concessions necessary to reach an agreement on their own. Theoretically, interest arbitration, like the strike, should be an event disagreeable enough to encourage the parties to work hard at settling their differences themselves.

Interest versus rights arbitration

The first basic distinction to make in a discussion of arbitration is between rights and interest arbitration. Rights arbitration (alternatively called grievance or contract arbitration) refers to an arbitrator's settling a dispute between labour and management over the interpretation of an existing collective agreement. A written contract is required for a contract violation or grievance to be raised; thus, grievance arbitration is the last step in a contractually specified multi-step grievance procedure. Such rights arbitration is prevalent in both the private and the public sectors. (In the public sector, rights arbitration - here often called adjudication - can also involve interpretation of statutes as well as collective agreements.)

In contrast, interest arbitration - the subject matter of this report - refers to the establishment of the terms and conditions of the collective agreement itself. Used when the negotiation process fails, it usually occurs in the absence of a signed contract[1] and results in an arbitrator's establishing the contract. If there is subsequent disagreement over the interpretation of that agreement, then those differences can be submitted for grievance arbitration. Alternative phrases for interest arbitration include wage arbitration (although other terms and conditions of employment are established), compulsory arbitration (although grievance arbitration can be compulsory and it is possible for the parties to agree voluntarily to interest arbitration), and binding arbitration (although grievance arbitration is also binding).

Although the terminology can obviously be confusing, the distinction between interest and rights arbitration is usually clear in context. The statement 'the issue was submitted to arbitration' refers to grievance arbitration over the interpretation of a particular term in the contract, such as one related to discipline, seniority rights, or job classification. The statement 'the contract went to arbitration' or 'the arbitrated settlement was 5 per cent' refers to establishing the terms and conditions of a contract by interest arbitration. Pay is the most common item involved, but interest arbitrators often deal with the full spectrum of bargainable issues, including fringe benefits, job classification, work rules, job security, and health and safety regulations.

Both rights and interest arbitration serve as alternatives to the strike as a dispute-resolution procedure - the right to strike during a contract is given up in return for the right to grieve; the right to strike at the end of a contract is given up for interest arbitration. Moreover, both kinds of arbitration involve the competing parties' presenting evidence at a hearing with a binding decision being made by a neutral third party, usually a lawyer. Nevertheless, the two are quite different processes with fundamentally different outcomes. The rights arbitrator is bound by the terms and conditions of the contract; the role is to adjudicate by interpreting and applying the existing agreement, much as a judge interprets the existing law. For example, a rights arbitrator who disagrees with a particular clause is still bound by that clause, leaving the parties to renegotiate it when the contract is up for renewal.[2] In contrast, the interest arbitrator has considerable leeway in deciding the terms and conditions of the contract (even though discretion may be limited by criteria that have been legislated or formally or informally agreed to by the parties). This distinction is important because of concern that the process and procedures of the more established and extensive system of rights arbitration have been compelled - for want of alternative arrangements - to deal with the recent surge of interest arbitration with its fundamentally different issues. While some people criticize the timing and expense of grievance arbitration, there is general agreement that it works reasonably well and is a viable alternative to the use of the strike during the life of a contract. There is less agreement about the viability of interest arbitration.

Obviously, a single interest arbitration case can affect a larger number of employees than do most single grievance arbitration cases. The

impact of interest arbitration can be quite substantial since it can involve establishing many of the terms and conditions of the contract for all employees, whereas rights arbitration can involve the interpretation of one clause that has already been agreed on by the parties, and it may have a direct effect on only one employee. Yet, in spite of its importance, interest arbitration seems to be a thankless task increasingly shunned by arbitrators. As one experienced arbitrator notes, 'Most of the dwindling number of arbitrators who still accept appointments do so out of a despairing sense of public duty' (Ken Swan, cited in Sack 1981, 30). Arbitrators may be reluctant to do interest arbitration because their training, which is usually legal, better equips them for the legalistic interpretation of an existing agreement than for establishing the terms and conditions of an agreement.

In sum, there are fundamental differences between establishing the terms and conditions of a contract (interest arbitration) and interpreting that contract (grievance arbitration).

Arbitration versus non-binding intervention

The use of the term 'binding arbitration' for 'interest arbitration' sometimes creates confusion through its suggestion that some kinds of arbitration are not binding. In fact, all arbitration is, by definition, binding on the parties at dispute.[3]

There are, however, several forms of non-binding third-party intervention that may help the disputing parties to reach a settlement without imposing one. Under conciliation, a third party simply assists the parties in reaching an agreement; no recommendations are made. Mediation and conciliation are terms often used interchangeably, although mediation may signify a stronger degree of third-party involvement, often after conciliation or when a strike is imminent or in progress. Again, no formal recommendations are made. Fact-finding is the strongest form of non-binding intervention, with recommendations being made.[4]

Tripartite panels versus a single arbitrator

Arbitration can involve a single arbitrator or a larger number, often three. Usually, a panel has a representative from labour, another from

management, and a neutral chairperson, who may be selected by the parties or their representatives or appointed by an outside agency.

Tripartite arbitration is obviously costly, and its partisan representation extends the bargaining process and the possible need for compromise into the actual writing of the award. The partisan representatives can, however, make sure that their principals' positions are properly understood when the ultimate decisions are being made behind closed doors. And the parties' knowledge that they have been represented throughout the process, not just at formal hearings, may enhance the acceptability of the award, especially when the decision is unanimous.

Wage boards

It is worth noting that the single arbitrators and tri-partite panels used for arbitration in North America differ from the arbitration boards or wage councils common in some other countries, such as Australia and Great Britain. As discussed in Chapter 6, independent wage boards provide a much more elaborate and permanent system of interest arbitration than prevails in North America in peacetime.[5]

First contracts versus renewals

Interest arbitration can be used to establish the terms and conditions of a first collective agreement or of a contract renewal. Without a statement to the contrary, the term 'interest arbitration' usually refers to the arbitration of a contract that is up for renewal, while 'first-contract arbitration' is used for the establishment of a first contract by arbitration.

Since the rationale for first-contract arbitration is to facilitate the beginning of collective bargaining, arbitrators in such circumstances generally award basic standard contracts, leaving further advances and innovations up to the parties in subsequent rounds of bargaining.

Given the necessarily limited scope of this report, it deals with first-contract arbitration only as it shares the general issues of interest arbitration awards; neither does it discuss whether or not first contracts should be arbitrated or other issues related specifically to first-contract arbitration.[6]

Use in the public versus the private sector

In theory, interest arbitration can occur in any sector, public or private,

whenever contract negotiations end in an impasse. In practice, it is far more common in the public sector and quasi-public sectors. The disputing parties may go to arbitration voluntarily or be compelled to it by an existing statute or by an ad hoc order.

In the private sector, the strike is generally considered a regrettable necessity, a way of sorting out basic differences between labour and management. The disputing parties themselves bear most of the costs of the strike - workers lose income and management loses customers and profits. Third parties can certainly be affected by a private-sector strike, but by buying elsewhere in competitive markets, they can also exert market pressure for an end to it. Thus, interest arbitration is rarely required in the private sector and, as we shall see, is not common there.

In contrast, the third parties affected by a public-sector strike are members of the general public, who now cannot consume a service for which they have usually already paid through their taxes. Most importantly, they usually cannot go elsewhere for this service, which is often of an essential nature. In fact, it is this natural-monopoly aspect of essential services that is usually given as the reason for their public provision in the first place. Since the delivery of such services is deemed so essential that it must be done through the public sector, strikes are often not allowed to interrupt that delivery.

Denying workers the right to strike, their ultimate bargaining weapon, leaves them to engage in what labour often terms 'collective begging'. An alternative is to have the contract set by a third party. Thus, interest arbitration is used as a dispute-resolution procedure in the public sector when the strike is regarded as having socially unacceptable consequences.

Voluntary versus compulsory

Interest arbitration can be compulsory - required by law - or voluntary in that both parties agree to it, usually as an alternative to the strike.

Voluntary arbitration is extremely rare in the private sector, with some notable exceptions.[7] In Ontario, the few private-sector occurrences have been in the quasi-public sectors.

In the public sector, the distinction between voluntary and compulsory arbitration becomes blurred and is mainly one of timing because the parties may voluntarily agree to arbitration knowing that it otherwise may

be compelled upon them. Conversely, both parties may prefer arbitration but each be reluctant to admit that preference lest something have to be given up to the other party in return for establishing arbitration. Thus, as a bargaining tactic, they do not reveal the preference. In such circumstances, arbitration may have to be compelled upon the parties, even though both prefer it. Actually, the distinction between voluntary and compulsory arbitration in the public sector may be of little practical value; once arbitration is established there, it does not matter if it was voluntary or compulsory in the beginning.

The fact that voluntary arbitration is rare in the private sector, however, indicates that labour and management, when not compelled to do otherwise, almost invariably prefer the costs and consequences of a possible strike to the uncertainties of an arbitrated settlement. In the private sector, the costs and consequences of strikes are generally borne by the parties directly involved (that is, the costs do not fall on third parties, or, to use economic terminology, major externalities are not present).[8]

Why do private-sector parties prefer the possibility of strikes even though they themselves bear the full costs? Given the strike route, they can gauge fairly accurately the trade-offs between strike costs and settlement consequences and then settle or continue the dispute accordingly. Under arbitration, however, they have less control, and the resultant uncertainty and risk can have extreme consequences. Therefore, parties are averse to outside interference, and a settlement negotiated by the parties who have to live with it is preferable to one imposed by a third party. (This is so even when the parties, as is often the case in the private sector, can have a great deal of joint control over the arbitration process, for example, by limiting the issues subject to arbitration or by specifying the criteria the arbitrator must use.) Other reasons for the relative lack of arbitration in the private sector may be the general perceptions that arbitrators tend to favour the weaker party and that suggesting arbitration is an admission of weakness.

The lack of voluntary arbitration in the private sector has a number of policy implications for the viability of compulsory arbitration in the public sector:

1 Arbitration will always have associated problems that must be dealt with but that can never be solved completely.

2 It is expected that both labour and management may severely criticize the arbitration process and its outcomes, and their concerns may well be legitimate ones, not just bargaining stances.

3 Most important, negotiated settlements, whenever feasible, are to be preferred to arbitrated ones.

4 Following from the other arguments, while arbitration may be necessary in the public sector, it is at best an imperfect dispute-resolution procedure.

Statutory versus ad hoc arbitration

Compulsory interest arbitration may be subdivided by its legal underpinnings. Ad hoc arbitration is imposed by government, often as part of 'back-to-work' legislation, to settle a particular dispute. It usually occurs when a particular strike endangers public safety or threatens to disrupt the economy. (In the latter case, it often occurs in the quasi-public sectors - transportation, communications, utilities - or during wartime.) Alternatively, arbitration may be established by statute as a regular procedure. Not all such statutes make arbitration compulsory as the ultimate dispute-resolution procedure. Some specify it as an optional procedure to be used if requested by both parties; a few give the choice to the workers.

Arbitration can be established by statute in a variety of forms. Separate statutes may exist for various specific elements of the public sector (as for police, firefighters, and teachers in Ontario). Or a single statute may apply to the bulk of public-sector workers or to both public- and private-sector workers with or without special provisions for those in the public sector. Also, the labour relations act that generally covers the jurisdiction's private-sector workers may specify special provisions for voluntary interest arbitration in the private sector (for example, Section 34C of the Ontario Labour Relations Act). The use of some of these options is described in Chapter 3, with emphasis on the situation in Ontario.

It should be noted that although ad hoc arbitration is temporary in the sense of dealing with one dispute, it runs the risk of becoming permanent as the parties incorporate into their bargaining positions the possibility of its legislation. Moreover, as pointed out by Arthurs (cited in Weiler 1981, 105), ad hoc intervention invites politicization, changes the

rules in the middle of the game, and does not provide any long-term resolution of fundamental differences. For these reasons, it can be a prelude to a more formal system of dispute-resolution procedure in which arbitration is required by statute.

Alternative forms of interest arbitration

Under a conventional system of interest arbitration, the arbitrator has a very wide field of choice in making a settlement. The major bounds are those set by law, by previous agreement of the parties, and, to some extent, by precedent. The settlement may include a compromise on every item under dispute.

This may sound like an ideal way to write a collective agreement. One problem, however, is that the arbitrator works primarily from information supplied by the disputing parties and such information may consist largely of bargaining stances. Moreover, the arbitrator, not the parties concerned, must decide the trade-offs and concessions to be made, and that decision must be made without knowledge of the true preferences of the parties who must live with the contract.

A number of alternatives have been developed to mitigate some of the drawbacks of conventional interest arbitration. The major alternatives, which are described in this section, include final-offer arbitration and its variants, closed-offer arbitration, mediation-arbitration, and choice of procedure.

Final-offer arbitration

Final-offer arbitration represents the major variation on conventional interest arbitration. Under final-offer selection (originally proposed in Stevens 1966), the arbitrator must choose between the employer's and the union's final offers. This 'either-or' selection has the advantage of pressuring the parties to make reasonable final offers (since unreasonable ones are unlikely to be accepted). In addition, it encourages the parties themselves to reach a negotiated settlement before arbitration because the all-or-nothing nature of the settlement presents a greater risk than does conventional arbitration.

The disadvantages of final-offer arbitration include the fact that the arbitrator, being unable to compromise, may have to accept undesirable

clauses incorporated in the more acceptable total offer. The choice may even be between two offers that could both be characterized as unworkable, unacceptable, or undesirable. Another serious problem is that although the parties may be induced to reach a negotiated settlement, it is likely to reflect their perception of the arbitrator's preferences rather than their own (Crawford 1979; Farber 1981). A 'negotiated' settlement under final offer, as under conventional arbitration, may not involve a mutual resolution of differences between the parties. Moreover, there is always a loser, an undesirable feature since the viability of a contract depends upon its acceptability to the parties who have to live with it - and even less desirable when it is important for the negotiators to be able to save face with their constituents.

It is true that under final offer the loser may 'get what it deserves' for being the more unreasonable party and that the 'loser' still may be better off than it would have been under conventional arbitration. More important, the loser is only a loser ex poste and may still regard the final-offer procedure as fair ex ante, especially if the parties are properly informed and understand the procedure (De Nisi and Dworkin 1981). Also, although the arbitrator is unable to compromise in the award, the total amount of compromise may be greater under final-offer than under conventional arbitration, given the obvious incentive for the parties themselves to compromise before the award. In addition, intertemporal compromise is possible since any anomalies in a given award can be rectified in subsequent bargaining or arbitration awards (Swimmer 1975).

Clearly, final-offer arbitration has pros and cons. Arbitrators who use it have themselves often expressed frustration at having to make an all-or-nothing choice (for example, Swan, cited in Sack 1981, 108). Nevertheless, prominent Canadian practitioners have also recommended that final-offer selection be considered for more extensive use (for example, Swan cited in Sack 1981, 105; Weiler 1980).

Variants of final-offer arbitration

To overcome some of the potential problems of final-offer arbitration yet retain its virtues, analysts and arbitrators have suggested a number of variants. These include:

- Issue-by-issue choice. Rather than the arbitrator's accepting the

total package of one side or the other, each dispute issue can be subject to separate final-offer selection. This method permits compromise across issues and hence reduces the likelihood of an arbitrator's having to accept an extreme total settlement or undesirable elements as part of a total package.

- Multiple final offers. To reduce the possibility of having to choose between two unacceptable packages, arbitrators can require each party to submit several final offers. Obviously, a large number of offers would be unwieldy; in the extreme, an infinite set would make the system approach conventional arbitration, negating the very purpose of final-offer selection. In practice (for example, in Eugene, Oregon [Donn 1977; Long and Feuille 1974]), the number of final offers has been limited to two or three.

- Variants of multiple-offer selection. In a multiple-offer procedure, the arbitrator can simply choose one side, leaving it up to the other to choose a particular offer from the 'winner's' array (Donn 1977, 312). Such a method may reduce the loss to the losing side and hence yield a more acceptable award. In economists' terms, this outcome is Pareto-optimal - it leaves one party better off and none worse off as long as the winning side is indifferent amongst its set of offers.[9]

Such indifference is not as unlikely as it might seem at first thought, since it is likely that each side will structure its offers so as to be indifferent amongst them when the probability of acceptance is considered. For example, an employer may originally prefer a particular low offer, but once it considers the probability of acceptance, it is likely to raise that offer (to increase its acceptability to the arbitrator and to the other side) to the point at which it is indifferent as to whether labour, if it has the choice, selects this offer or another.

- Repeat-offer selection. Another approach to offset the problem of having to choose between two undesirable offers is for the arbitrator to reserve the right to reject both and have the parties resubmit new final offers (Donn 1977, 311; Stern et al. 1975, 140). Obviously, the more information the arbitrator provides on the reasons for rejection and the larger the number of repeats allowed, the more the process becomes like conventional arbitration.

- Modified final offer. A further variant allows the arbitrator to accept the award of a fact-finder or to write his or her own award if both final offers are unacceptable. This award may be automatically binding, an arrangement that enhances the incentive to make reasonable final offers and concessions before arbitration. Or the award may become binding only if both parties agree to it; otherwise, the arbitrator reverts to a selection of one of the final offers (Donn 1977, 311-2). In the latter case, the party whose offer is closer to the award is likely to use its veto, knowing that the arbitrator will subsequently choose its offer. The fact that both parties may accept the award that splits the difference between their final offers does, however, enable a compromise between two otherwise unacceptable offers. Since it may be in the parties' mutual interest to have a liveable award, this method may be a preferred alternative.

All these variations have the advantage of mitigating one of final-offer arbitration's main drawbacks: the possibility that neither choice will be desirable or result in a contract that both parties can live with. In doing so, however, the variations all at least partially undermine the very purpose of final-offer selection: pressuring both parties to compromise during the pre-arbitration negotiating stage - thus reducing the zone of disagreement and perhaps even coming to a settlement - and to reveal their true positions, rather than their bargaining stances. Also, none of the variants addresses another problem: negotiation under final-offer arbitration is likely to reflect the two parties' perceptions of the arbitrator's preferences, rather than the trade-offs amongst their own preferences, and hence may result in unworkable settlements. (See Crawford 1979 for a discussion of this problem in issue-by-issue final-offer arbitration.)

Closed-offer arbitration

Some commentators (Farber 1981; Wheeler 1977) have suggested, as an alternative to final-offer selection, a procedure to get the parties to reveal their true positions. Under closed-offer selection, their positions during any negotiations before arbitration would be inadmissible as evidence during the arbitration procedure. This system would be consistent with court proceedings, in which offers of compromise or settlement are inadmissible in the adjudicative stage - a practice designed to encourage out-of-court settlements (Brown and Beatty 1977, 124; Wheeler 1977, 302).

Unfortunately, although closed-offer arbitration would encourage revelation of true offers during the negotiation stage, it would not necessarily reduce the zone of disagreement at the arbitration stage; the parties could revert to their initial positions without the arbitrator's knowing that they had been willing to make concessions. In addition, the feasibility of keeping earlier positions unknown to the arbitrator or of having the arbitrator not act on them remains open to question.[10]

Mediation-arbitration

Some analysts have taken a quite different approach to solving the problems of arbitration, suggesting that the arbitrator play an active role as a mediator during the negotiating stage before arbitration. Known as med-arb, this blending of mediation and arbitration provides both the arbitrator and the parties with additional information on each other's preferences.

The effects are mixed. On one hand, the greater certainty regarding the magnitude of the arbitrated settlement reduces the risk associated with going to arbitration. So there may be less pressure to settle before arbitration. On the other hand, if the parties learn the arbitrator's preferences during the mediation stage, they may be more likely to settle then and save the cost of going to arbitration. Such a settlement is not, however, one reached purely by the parties themselves; rather, it reflects their knowledge of what the mediator is likely to do in arbitration. In the extreme, if they learn the likely arbitrated outcome too early, the mediation stage becomes the arbitration stage, even if a negotiated settlement is reached.

Blending mediation and arbitration also means that the arbitrator has first-hand knowledge of the parties' early positions, rather than simply the information received during formal arbitration hearings. This knowledge can be useful in gauging the intensity of preferences and hence in shaping a final settlement if the dispute ultimately goes to arbitration. Since the parties may realize this point, they may be more likely to engage in posturing during the mediation stage; their reluctance to reveal their true preferences may impede a negotiated settlement and make even an arbitrated one more difficult, given the wider range of disagreement. Clearly, the effects, on the bargaining process and its outcomes, of blending mediation and arbitration are ambiguous in theory.[11]

Choice of procedure

Interest arbitration can also be characterized by a choice of procedures. Under the federal Public Service Staff Relations Act, for example, the bargaining agent can choose, prior to negotiation, to bargain with interest arbitration as the specified final procedure in case of impasse or under a strike route with non-designated employees having the right to strike after conciliation. In other words, the employee representative makes the choice of procedure, and it involves a choice between an arbitration or limited strike route. Other arrangements are possible. For example, the choice could involve alternative arbitration procedures as well as, or in addition to, alternative dispute-resolution procedures. In addition, the choice could involve the mutual consent of both parties,[12] or it could be at the request of either party, or it could be imposed by an independent agency with statutory powers. Joseph Weiler (1981, 122), for example, suggests that such an agency be empowered to impose an arbitration procedure after having been apprised of the progress of bargaining; the choice would depend on the nature of the deadlock, and it would prevent the parties from fashioning their bargaining positions according to their preferred system of arbitration.

Choices of procedure have the merit of being adaptable to particular circumstances. For example, it is generally agreed that final-offer selection is more appropriate in mature than in new bargaining relationships since in the former case the parties are less likely to take extreme positions (Grodin 1972). It is also generally agreed that the parties themselves are best able to devise their own arrangements and that when they do, their arrangements are most likely to be workable and to lead to desirable outcomes in the long run. Hence, in the absence of a conflict with the public interest, any choice of procedure that the parties mutually agree to is desirable.

Giving the choice to only one party, of course, enhances that party's bargaining power. Hence, it is likely to be given only in return for concessions on some other elements in the bargaining process, such as having accepted restrictions on the right to strike.

Summary

Clearly, arbitration can take a variety of forms, each of which has pos-

sible modifications. Since many of the forms and procedures are not mutually exclusive, the number of permutations is large indeed. This report focusses on compulsory interest arbitration. Even within this limited sphere, there are variations as to how the arbitration is compelled, who does the arbitrating, and, most important, the form of arbitration.

The various forms of arbitration and their modifications are designed to achieve the related objectives of: 1) reaching an agreement that is acceptable to both parties; and 2) encouraging the parties to reach a workable negotiated settlement or at least to narrow the range of disagreement within which the arbitrator must make a settlement. Unfortunately, difficult choices remain. Procedures that encourage collective bargaining and trade-offs run the risk of yielding unworkable or unacceptable awards. In fact, it is this very risk that often encourages concessions and may lead to a negotiated settlement; in essence, the parties incorporate the expected consequences of the arbitration procedure, a phenomenon that may offset some of the other consequences of the arbitration procedure.[13]

When an arbitrated settlement is necessary, choosing the appropriate form of arbitration also involves trade-offs. While the correct choice is not obvious, it seems desirable to have more experimentation with the various options and more monitoring of these experiments. Such studies should include the experience of United States, where variant forms of arbitration have seen more use than they have in Canada.

3

THE PREVALENCE OF ARBITRATION

Unfortunately, comprehensive information is not readily available with which to construct a precise picture of the prevalence of interest arbitration in various Canadian jurisdictions and how it has changed over time. Nevertheless, a picture of the Ontario scene can be drawn and some comparisons made. Comparisons are complicated, however, since the literature sometimes reports data on actual use of arbitration and sometimes on its potential use - that is, on requirements that it be used if a negotiated settlement is not possible. Also, the numbers at times refer to agreements and at other times to employees, and different time periods are involved with substantial year-to-year changes depending on which contracts expire in a given period and on the particular bargaining units involved in the industry.

Another set of problems flows from variations, within and between jurisdictions, in the laws that require or encourage arbitration as the ultimate dispute-resolution procedure. Finally, any picture that can be drawn from the data may be a mirage; so many negotiated settlements are linked, specifically or not, to arbitrated ones that figures on the latter underemphasize their importance. The threat of ad hoc legislation has a parallel effect, often blurring the distinction between voluntary and compulsory arbitration to one of timing: disputing parties may 'voluntarily' agree to arbitration knowing that otherwise they would be compelled to it.[1]

Given all these caveats, however, the following sketch may give some idea of the prevalence of arbitration in Ontario and other jurisductions.

Ontario, 1980-1

In Ontario, arbitration can come about in four situations. First, special collective-bargaining statutes specify it as the ultimate dispute-resolution

TABLE 1
Settlements and arbitration in Ontario

	Settlements in 1980			Settlements in 1981		
	Number	Number arbitrated	% arbitrated	Number	Number arbitrated	% arbitrated
Compulsory arbitration/sector-specific statute[a]						
Hospital workers	373	115	30.8	686	381	55.5
Crown employees (provincial)	13	2	15.3	11	1	9.1
Municipal police	108	10	9.3	125	3	2.4
Ontario Provincial Police	1	0	0.0	1	0	0.0
Firefighters[b]	40	11	27.5	67	20	29.9
Subtotal	535	138	25.8	890	405	45.5
Voluntary arbitration/sector-specific statute[c]						
Teachers (elementary and secondary)	132	1	0.7	134	0	0.0
Community college instructors	1	0	0.0	2	0	0.0
Federal employees	38	9	23.7	55	5	9.0
Subtotal	171	10	5.8	191	5	2.6
All others[d]	2764	3	0.1	2834	3	0.1
Total, all settlements	3470	151	4.4	3915	413	10.5

a Namely, the Hospital Labour Disputes Arbitration Act, the Crown Employees Collective Bargaining Act, the Police Act, The Public Service Act (for the OPP), and the Fire Department Act.

b Arbitration at the request of either party.

c Sector-specific statutes that specify arbitration as an option; namely, the School Boards and Teachers Collective Negotiations Act, the Colleges Collective Bargaining Act, and the Federal Public Service Staff Relations Act.

d Calculations based on total for all settlements less those subject to one of the sector-specific statutes. Thus, these figures include the entire private sector and part of the public sector; they could include awards subject to voluntary arbitration under the Labour Relations Act as well as ad hoc arbitration imposed by the government in an emergency.

SOURCE: Computed from data provided by the Research Branch of the Ontario Ministry of Labour.

procedure for hospital workers, Crown employees, police, and firefighters. Second, some sector-specific statutes specify it as an optional procedure: for elementary, secondary, and community college teachers, it can be instituted at any time during negotiations by the request of both parties, and for federal employees, it can be invoked at the request of the employ-

TABLE 2
Ontario workers and arbitrated settlements

	Workers covered by 1980 settlements			Workers covered by 1981 settlements		
	Number	Number covered by arbitration	% covered by arbitration	Number	Number covered by arbitration	% covered by arbitration
Compulsory arbitration/sector-specific statute[a]						
Hospital workers	28,295	11,043	39.0	70,844	53,534	75.6
Crown employees (provincial)	57,023	7,557	13.3	53,788	4,824	9.0
Municipal police	12,922	1,536	11.9	7,467	491	6.6
Ontario Provincial Police	3,916	0	0.0	3,864	0	0.0
Firefighters[b]	3,973	1,169	29.4	6,179	2,541	41.1
Subtotal	106,123	21,305	20.1	142,142	61,390	43.2
Voluntary arbitration/sector-specific statute[c]						
Teachers (elementary and secondary)	57,374	522	0.9	62,765	0	0.0
Community college instructors	6,400	0	0.0	10,600	0	0.0
Federal employees	53,618	8,708	16.2	75,093	2,722	36.2
Subtotal	117,392	9,230	7.9	148,458	2,722	1.8
All others[d]	489,352	91	0.0	304,052	5,740	1.9
Total, all settlements	712,867	30,626	4.3	594,652	69,852	11.7

a,b,c,d See Table 1.
SOURCE: See Table 1.

ees' bargaining unit before negotiations begin. Third, voluntary arbitration is available on mutual request to all situations covered by the Labour Relations Act, which includes municipal and some other public-sector workers as well as most private-sector employees. Fourth, ad hoc legislation (often 'back-to-work' legislation) may dictate arbitration to settle a particular dispute. Since such legislation is rare, data bases usually group arbitration that occurs under it with voluntary arbitration under the Labour Relations Act.

Table 1 uses these groupings to classify data on collective agreements in Ontario in 1980 and 1981; Table 2 reports the number of workers involved. (Since many of the proportions are similar in the two tables, the

following text uses the data on agreements.)

Most bargaining situations do not, of course, end in arbitration, even in the sectors where it is compulsory as the final dispute-resolution procedure. That negotiated or mediated settlements are more common is reflected in the tables' usage rates (that is, the percentage of agreements that actually reach arbitration), which surpassed 50 per cent only for hospital workers in 1981. That high rate contributed substantially to the rise in the overall usage rate of compulsory arbitration, from 25.8 per cent in 1980 to 45.5 per cent in 1981. In those sectors providing for voluntary arbitration by sector-specific statutes, usage was much less frequent - 5.8 per cent in 1980 and 2.6 per cent in 1981.

In the final group, arbitration was extremely rare, occuring in only three of the almost three thousand contracts (less than 0.1 per cent) in each of 1980 and 1981. Thus, although arbitration is potentially available to all employees covered by collective agreements, it is essentially a public-sector phenomenon.

Closer examination of the data further illustrates this point. As already noted, Ontario law puts some public and quasi-public sectors under the same statute as the private sector. And in 1980 and 1981, voluntary arbitration under the Labour Relations Act occurred predominantly in sectors that are considered public or quasi-public (health, defence, education, and utilities).

The overall figures also mask considerable variation in usage rates across sectors. Clearly, arbitration is a prominent dispute-settlement procedure in the hospital sector, having been used in 30.8 and 55.5 per cent of the contracts (for 39.0 and 75.6 per cent of the employees) in 1980 and 1981 respectively. This point is especially important since the hospital sector has much the largest number of contracts and employees under compulsory arbitration. Firefighters and federal employees also had relatively high usage rates.

In all sectors combined, 4.4 per cent of collective agreements ended in arbitration in 1980 and 10.5 per cent in 1981. The size of the figures - for both settlements and employees affected - suggests that arbitration plays an important role in Ontario's economy, even if one does not consider possible spillover effects. The considerable variability between 1980 and 1981 partly reflects the fact that contracts do not come up for renewal each year. Since most contracts are for one or two years, however, the 1980-1 period probably covered the vast majority of contracts for which

arbitration was potential.

Ontario before 1980

Other studies report information on some sectors for a somewhat longer time period. Most show data not dissimilar to those in Tables 1 and 2, again with considerable year-to-year variation. For example, of Ontario civil servants bargaining under the Crown Employees Collective Bargaining Act in 1977, 48 per cent received arbitrated awards; in 1978, it was 25 per cent, and in 1979, 3 per cent. Between 1963 and 1979, 30 per cent of the sixty-four agreements signed under the act were settled by arbitration (Adams 1981, 164). In the province's hospital sector, 3 per cent of the bargaining employees were covered by an arbitrated award in 1976, 16 per cent in 1977, 69 per cent in 1978, and 48 per cent in 1979 (Adams 1981, 154). For police and firefighters in 1979, approximately 9 and 28 per cent respectively of the contracts were settled by arbitration.[2]

The School Boards and Teachers Collective Negotiations Act is one of the special Ontario statutes that specifies voluntary arbitration (conventional or final offer) on the mutual consent of the parties at any time during negotiation.[3] Since the act's inception in 1975, the use of arbitration has been almost twice as extensive as the use of the strike, with the parties opting for arbitration in 47 out of 997 (4.7 per cent) bargaining situations (Adams 1981, 167).

Voluntary arbitration under the Labour Relations Act has been extremely rare, with five instances in 1978, involving 3152 employees, and one in 1979, involving 304 employees (Sack 1981, 78).[4] Arbitration required by ad hoc legislation has also been rare in Ontario; recent instances involved municipal hydro-electric employees in 1962, Toronto municipal workers in 1972, Toronto transit workers in 1974, and Toronto teachers in 1975 (Adams 1981, 149, 150, 168).

These figures on the incidence of arbitration may, however, vastly understate its importance since many negotiated settlements reflect arbitrated ones. For example, although arbitration directly affected only 3 per cent of the hospital employees covered by 1976 settlements, the remaining 97 per cent won negotiated settlements that were based almost completely on the few agreements arbitrated during that period (Adams 1981, 154). Similarly, although the Ontario Provincial Police have never gone to arbitration, their negotiated agreements have been linked to those of the

TABLE 3
Use of arbitration under the Federal Public Service Staff Relations Act, 1967-79

Bargaining round	Number of contracts	Arbitration route chosen (% of contracts)	Arbitration used as % of times chosen	Arbitration used as % of all contracts[a]
1	2	3	4	5
1	49	83.6	4.9	4.1
2	49	81.6	32.5	26.5
3	49	79.6	33.3	26.5
4	48	54.2	38.5	20.9
5	48	52.1	32.0	16.7
6	45	55.5	60.0	33.3
7	33	66.7	45.5	30.3
8	14	71.4	60.0	42.8
All	335	68.1	-	-

a Calculated as the product of the two previous columns; that is, the probability of an arbitration award is the probability of choosing the arbitration route times the probability of requiring an arbitrated settlement if the arbitration route is chosen.

SOURCE: Anderson (1981a, 49) for columns 1 to 4.

Metropolitan Toronto Police Force, which have been determined by arbitration. Other linkages include those of firefighters to police and of smaller municipal police forces to large forces (Adams 1981, 146-8).

The federal public service

The vast majority of workers in the federal public sector bargain under the Public Service Staff Relations Act of 1967. The data on voluntary arbitration in this sector is interesting because the Public Service Staff Relations Act gives workers alone the choice between the arbitration and the strike-conciliation route. Table 3 gives, for all Canadian jurisdictions for the eight rounds of bargaining between 1967 and 1979, the extent to which the arbitration route was chosen and the extent to which it was used once the route had been chosen. The data indicate that the arbitra-

tion route was chosen quite extensively (column 3) and that once chosen, except during round one, it was used quite extensively (column 4). Given the high probability of choosing the arbitration route and the substantial probability of requiring arbitration once that route was chosen, the proportion of all federal collective agreements decided by arbitration (column 5) was fairly substantial.

As column 5 indicates, the proportion of contracts in this sector that was set by arbitration generally increased over time. This rise was the result of an increase in the use of arbitration once that route was chosen (column 4), a rise substantial enough to offset the decline in the extent to which the route itself was chosen (column 3). That is, the arbitration route was increasingly abandoned in favour of the strike-conciliation route; however, when the arbitration route was chosen, it increasingly ended in arbitration rather than a negotiated settlement. By 1979, the arbitration route was chosen in 71.4 per cent of the cases, with 60.0 per cent of these requiring arbitration and 40.0 per cent ending in a negotiated settlement. Overall, this means that almost 43 per cent (0.714 x 0.60) of the federal contracts ended in arbitration. Data from the annual reports of the Public Service Staff Relations Board indicate, however, that the proportion of employees covered by an arbitration award (as opposed to contracts settled by arbitration) was much lower.

Other provinces

Systematic comparative data on the availability and usage of arbitration in other provinces are not readily available. Table 4, however, provides a summary of the existence of compulsory arbitration, by province, in the various elements of the public sector.

Clearly, a diversity of systems exists. All provinces specify arbitration as a strike alternative for some groups, but no group faces compulsory arbitration in every province. In general, arbitration is more prevalent in the more essential services, such as police and fire; however, some jurisdictions do not require it in those sectors but do in less essential sectors, such as teaching or the civil service. Alberta and Ontario rely heavily on arbitration for most public-sector groups, while British Columbia, Manitoba, Quebec, New Brunswick, and Newfoundland allow the right to strike in many instances. Thus, diversity prevails both across provinces and across the different groups of the provincial public sectors.

TABLE 4
Compulsory arbitraton by province and sector

	Hospital workers	Police	Fire-fighters	Civil service	Teachers
British Columbia	no[a]	no[a]	no[a]	no[a]	yes
Alberta	no[c]	yes	yes	yes	no[c]
Saskatchewan	no	yes[d]	yes[d]	no	yes[d]
Manitoba	no	no	yes	no	yes
Ontario	yes	yes	yes[d]	yes	no[b]
Quebec	no	yes	yes	no	no
New Brunswick	no	no[c]	yes	no	no
Prince Edward Island	yes	yes	yes	no	no
Nova Scotia	yes[e]	no	no	yes	yes[f]
Newfoundland	no	yes	yes	no[c]	no

a Unless requested by union.
b But sector-specific statute provides for parties' mutually agreeing to arbitration.
c Unless all employees are declared essential or cabinet declares an emergency.
d At the request of either party.
e But not for all employees.
f But not for all items of bargaining.
SOURCE: Extracted from Sack (1981, 41-5).

The United States

Diversity also characterizes interest arbitration in the United States. Approximately half the states use compulsory arbitration for some public-sector groups. Most adopted it recently, usually in the last decade (Anderson 1981b, 129; Hondale, 1981), in contrast to Canada, where arbitration has been used for more than three decades and is currently used in all jurisdictions.

U.S. jurisdictions do, however, experiment more with various modifications of arbitration, especially with final-offer selection and mediation-arbitration (Weiler 1981, 120). Statutes instituted in the 1970s provide for final-offer arbitration for select public employees in Wisconsin and Michigan

on a total-package basis, in Massachusetts, Iowa, and Connecticut on an issue-by-issue basis, and in New Jersey on a total-package basis for economic issues and an issue-by-issue basis for non-economic ones (Bloom, 1981b). In contrast, no Canadian jurisdiction requires final-offer selection.[5]

Summary

In Ontario, 15 to 25 per cent of all collective agreements and employees covered by collective agreements are currently in situations in which a sector-specific statute makes compulsory arbitration the ultimate dispute-resolution procedure. Usage rates, that is, the proportion of agreements that end up going to arbitration, are 26 to 46 per cent in those sectors. They are slightly lower in the sectors where special statutes provide for voluntary arbitration, and almost nil under the voluntary arbitration procedures of the Labour Relations Act. Overall, 4 to 11 per cent of all collective agreements in Ontario in recent years have been established by arbitration. These usage rates may seriously understate the impact of arbitration, however, since many negotiated settlements are based on arbitrated ones.

Statutory requirements for compulsory arbitration seem more extensive in Ontario than in most other Canadian jurisdictions, although all require arbitration for some public-sector workers, especially police and fire-fighters. The patterns across jurisdictions are by no means uniform, however, nor do they appear consistent in the sense of requiring arbitration in the sectors that provide the most essential services. The same is true in the United States, where arbitration on a large scale is more recent and less extensive than in Canada, although it has involved considerable experimentation with forms.

4

THE IMPACTS OF ARBITRATION

In evaluating interest arbitration, researchers in industrial relations consider the impacts on the bargaining process, on bargaining outcomes (notably wage and strikes), and on bargaining inputs. Anderson (1981b) and Downie (1979) provide comprehensive reviews of the existing evidence and methodologies[1] and the following summary relies heavily on them.

Impacts on the bargaining process

Since public policy is ultimately concerned with outcomes, not the inputs or the processes that generate them, arbitration's impacts on the bargaining process may seem of minor importance. Nevertheless, the process merits analysis because it is an important ingredient in generating outcomes. In addition, industrial relations analysts often regard the process as an end in its own right, particularly in terms of how much negotiation it encourages. As suggested previously, it is generally agreed that negotiation is preferable to arbitration because the negotiating process provides an understanding of the other party's side, encourages compromise and trade-offs, promotes the articulation of preferences and the intensity of those preferences, and encourages the parties to reveal their true demands and offers.[2] These, in turn, help ensure that the settlement will be acceptable to the parties and workable in the long run. In addition, the negotiators and their principals become accountable for the settlement, a situation that can reduce illegal strikes by unions and blatant contract violation by management.

The narcotic effect and the chilling effect

Some analysts believe that when arbitration replaces negotiation and the

strike threat, the bargaining process loses much of its vitality and importance. The literature has emphasized two interrelated possibilities - the narcotic effect and the chilling effect.

The narcotic effect describes the tendency for parties who have used interest arbitration to rely on it. The dependency could be manifested in a variety of ways - choosing arbitration whenever it is available, failing to negotiate a contract and thereby requiring arbitration, or even consistently emulating arbitrated settlements elsewhere. It could develop because negotiating skills become rusty or geared to convincing the arbitrator rather than the other party, because weak leaders find they can hide better behind arbitrated than negotiated settlements, or because arbitration becomes perceived as a viable procedure. (The last, of course, would be considered a desirable effect.)

The chilling effect refers to the tendency of arbitration to 'cool' the bargaining process by encouraging the parties to submit unreasonable offers and discouraging concessions during the negotiating phase. In the extreme, the bargaining process is completely chilled if the parties start far apart on a large number of issues and remain apart throughout negotiations.

The chilling effect is alleged to occur in arbitration because the parties act in anticipation of a compromise settlement: the zone of disagreement starts large and stays large because their positions at the end of negotiation are likely to provide the range within which the arbitrated settlement will be made. Yet a fear that the arbitrator will simply 'split the difference' is not the only possible cause of the chilling effect. It may also reflect optimizing behaviour if arbitration reduces the uncertainty of the outcome or the costs of reaching a settlement (Bloom 1981a, 240-1).

In addition, as Farber (1981) points out, an arbitration award that 'splits the difference' need not result simply from expediency and compromise on the part of the arbitrator; it may reflect the fact that the parties have rationally placed their offers symetrically around the expected award. This implies, as in the models of Crawford (1979), that when arbitration is specified, even a negotiated settlement will reflect the parties' perception of arbitrators' preferences rather than trade-offs amongst their own preferences; hence, bargaining may be chilled even when it does end in a negotiated settlement.

Statistical procedures

The narcotic and the chilling effects are distinct in that the former concerns the arbitration procedure whereas the latter refers to the absence of bargaining within that procedure. Nevertheless, the two are related. A narcotic dependence on arbitration as a procedure can lead to an inability to bargain effectively, and a chilling of the ability or motivation to negotiate can lead to dependence on arbitration.

Because of the interdependence of the chilling and the narcotic effects, empirical studies often do not distinguish precisely between the two. A precise test for the narcotic effect examines the probability of the parties' going to arbitration in relation to their previous use of it and controls for the effects of all other factors. (In econometric terms, this is a test for pure state dependence after controlling for the heterogeneity resulting from the presence of different bargaining units or of changes in those units over time.) In practice, however, such a test is often approximated with aggregate data on the proportion of units that go to arbitration (rather than settle at an earlier stage).

Such data are convenient and easy to obtain, but they may not give an accurate picture of the extent of the narcotic effect. First, they omit settlements negotiated under the threat of arbitration, although these can mirror the effects of actual arbitration. Second, aggregate statistics may confound dependence on arbitration with the effects of other factors, such as differences among bargaining units. For example, an overall increase in public employees' use of arbitration may reflect the fact that the contracts of those groups with the greatest propensity for arbitration came up for settlement that year. Or perhaps it shows the entrance of new units that were more likely to go to arbitration, or the disappearance of some that were unlikely to use arbitration. Certain characteristics of the units themselves may have changed; these may be independent of arbitration but may nevertheless lead to a greater dependence on it. Or perhaps the units did, in fact, become more dependent on arbitration. Only the last is a true narcotic effect, but it is impossible to isolate in an examination of aggregate statistics.

Statistics on the proportion of units that require arbitration are also used as an indirect test of the chilling effect. The rationale is that if bargaining is chilled, a negotiated settlement is unlikely. A more direct test of the chilling effect uses the extent to which compromise occurs

during the negotiation process, with compromise measured in terms of initial offers and related concessions and in terms of the number of issues and the magnitude of each. Direct tests of the chilling effect are difficult, however; the measured compromise may be large, but the parties' initial positions may have been extreme in anticipation of arbitration. In such circumstances, much of the apparent compromise is illusory.

Evidence of impacts

Ponak (1982, 366) cites numerous Canadian examples indicating that conventional arbitration systems lead to a lower rate of negotiated settlements than do systems in which strikes are permitted. In his systematic review of empirical studies, Anderson (1981b, 134) cites twenty-one that used the proportion of cases resolved by arbitration as an indirect test of the chilling effect; most found evidence of its occurrence. The results showed considerable diversity, however, and he also reports three studies which used more direct measures of compromise during bargaining that were less supportive of a chilling effect. Anderson also reviews six laboratory studies that tested for chilling by a direct measure of concessions. They generally indicated that arbitration, rather than creating a chilling effect, induces compromise, in part because of the uncertainty of the arbitrated settlement; however, design problems and contradictory results were prevalent.

In his review of studies testing for the chilling and the narcotic effects, Downie (1979) also find the methodologies questionable and the evidence ambiguous and often conflicting. His assessment is that arbitration has not destroyed or weakened collective bargaining. This conclusion is reinforced by a later study (Butler and Ehrenberg 1981), which uses sophisticated econometric techniques to test for state dependence and finds a narcotic effect present in the early rounds of bargaining but reversed in subsequent rounds.

Although Downie concludes that the evidence does not prove a narcotic or a chilling effect from arbitration, his review indicates that final-offer arbitration provides definite incentives to bargain, and that those incentives are weakened when it is on an issue-by-issue rather than a total-package basis. Looking at conventional forms, Mironi (1977, 90), who based his findings on direct questioning of the negotiators in Alberta arbitration cases, reports that 36 per cent of the employer representatives

and 52 per cent of the union representatives held back concessions during pre-arbitration negotiations, in anticipation of a compromise award.

Impacts on bargaining outcomes

From the viewpoint of public policy, the most important impacts of arbitration pertain to bargaining outcomes, specifically wages and strikes. Since arbitration is usually instituted to deter strikes, its efficacy depends upon its ability to do so while yielding settlements that are fair and reasonable relative to settlements that are not arbitrated.

The standard for a fair and reasonable settlement is, however, elusive. One possibility is the settlement that could have been expected if arbitration had not been substituted for the strike; this standard is questionable, however, given that the very reason for requiring arbitration is the inordinate power associated with the strike in essential services. Another standard of comparison - the most often used - is the compensation received by comparable groups in the private sector or in other parts of the public sector; however, relevant comparisons from the private sector may not be available, and compensation in other elements of the public sector, even if it has been negotiated, may reflect the results of arbitrated settlements. (Comparability, as a criterion for setting awards, is further discussed in the next chapter.)

In theory, arbitration should have no inherent upward or downward bias in determining compensation, especially since comparability is the criterion arbitrators most often use in making settlements. Many people claim, however, that arbitrated settlements do exhibit an upward bias. They give various reasons: arbitrators are not ultimately responsible to the voting public, who must pay the bill; competitive pressures and the need to recruit ensure a floor for the settlement and may even lead employers to pay above it; arbitrators tend to ignore market forces that might otherwise constrain wage increases; the comparability techniques and surveys they use often have an upward bias.

Another common perception is that interest arbitration always favours the weaker party. One claim in this regard is that when the union can choose between a strike and arbitration, a relatively weak union is likely to choose arbitration in the hope that the arbitrator will follow the settlement pattern set by stronger unions that have chosen the strike route. A related claim is that arbitrators tend to think in terms of the 'just price'

(or 'fair wage') rather than the market wage that would reflect relative bargaining strengths.[3]

Evidence of impacts

As reviewed in Anderson (1981b) and Downie (1979), the evidence on the effect of arbitration on settlements is mixed; many of the studies included show no effect, some a negative effect, but most a slight positive effect. Recent evidence presented in Saunders (1980) suggests that arbitration under the federal Public Service Staff Relations Act, with its choice of procedure available to the unions, has not had an upward bias.

The reviews in Anderson (1981b) and Downie (1979) offer some evidence that arbitrators do not pay attention to labour market conditions, that arbitration is likely to produce the highest settlements when it is first introduced (while weaker units catch up), and that arbitration reduces wage dispersion. Although linkages and wage patterns amongst arbitrated and non-arbitrated settlements are common in the public sector, the limited empirical evidence suggests that arbitrated settlements do not have spillover effects - that is, they do not cause wages elsewhere to be higher. (Such effects could be extremely difficult to detect, however, since common forces can prevail and since non-arbitrated settlements may be negotiated under the threat of arbitration.) The evidence on the non-wage aspects of compensation suggests that arbitration is a conservative force since arbitrators seem reluctant to innovate on these items.

One of the problems of ascertaining the impact of arbitration per se is that the parties themselves choose to go to arbitration or at least influence the decision to use it. Thus, the use of arbitration may be correlated with other variables that may affect outcomes, and a study that does not control for them may simply reflect their effects. In an econometric study that did control for non-random use, Bloom (1981b) finds that arbitration has no significant effect on wage settlements. He also finds evidence that unions' offers are accepted more frequently than employers' under final-offer selection. This he interprets as greater risk aversion on the part of workers; they decrease their demands to increase the probability of acceptance. Ashenfelter and Bloom (1981) also find this behaviour in models based on both conventional and final-offer arbitration.

Since interest arbitration is often instituted in return for giving up the right to strike, it can be expected to reduce strikes. Yet, not all

situations that involve arbitration ban strikes, and illegal strikes are possible. Thus, strikes can be a clear signal that interest arbitration is not working (just as wildcat strikes during the life of a contract can signal that the grievance arbitration procedure is not working). The evidence indicates, however, that arbitrated settlements seldom result in strikes, and those few that do occur are of short duration, usually signalling dissatisfaction with the award (Downie 1979, 73-8; Ichniowski, 1982).

Impacts on bargaining inputs

In addition to its possible effects on the bargaining process and its outcomes, arbitration can affect various bargaining inputs, such as unionization, union structure, management structure, and the political and legal environment. These inputs are important not only in their own right but also because they can have obvious effects on the bargaining process and its outcomes.

The demand for unionization

In general, arbitration increases the demand for unionization largely because it makes unions more palatable to white collar and professional workers by reducing the need for militant tactics, especially the strike. Working with data from the Ontario hospital sector, Adams (1981, 153) also notes that when arbitrators award the compulsory dues provisions, unions are provided with the funds for organizing drives.

A counter-argument is that arbitration may serve as a substitute for unionism. Yet any such tendency is offset by the facts that arbitration is only used when there is collective bargaining and that such bargaining is usually done through certified unions. It is true that some groups that are not certified unions engage in collective bargaining and that voluntary arbitration may be used as a substitute for formal unionization.[4] It is also true that some groups may not seek union certification or even informal bargaining because their settlements are already linked to related arbitrated ones. Nevertheless, these occurrences are likely outweighed by the increased unionization that results when the availability of arbitration makes collective bargaining attractive to people who wish to avoid confrontation and strikes. Canada's public sector is today the mostly highly unionized of its industries - unionization is virtually complete in the fed-

eral public sector - and it seems unlikely that this would have been achieved if arbitration were not available as an alternative to militancy and strikes in the public sector.

Union structure

In addition to encouraging unionization, arbitration may also alter its structure. Ineffective leaders in unions (like those in management or government) can hide behind arbitration. The result may be less turnover of leaders and thus greater bureaucracy and less union democracy. Arbitration's emphasis on legal skills also plays a role here. Success requires the ability to present reasoned arguments and factual information, as opposed to the ability to organize and carry out a strike. It also requires negotiation skills for the bargaining that goes on before arbitration, but such negotiating is likely to be shaped by the factors ultimately emphasized in arbitration rather than by a strike threat. Thus, unions that tend to engage in arbitration are likely to rely on professional staff for legal and research advice; the result may be greater centralization of efforts to avoid duplication and to provide the necessary resources.

As Downie (1979, 71) points out, however, the traditional decentralized structure of Canadian unions does not seem to have been dramatically shaken by the prevalence of arbitration. The reason may be the need to pay attention to local issues in a country with notable regional disparities. Rose (forthcoming) suggests that the lack of centralization in Canadian public-sector unions may also reflect the fact that many were formed through mergers that guaranteed autonomy for local affiliates; their growth since has simply been too rapid and too recent for centralization to evolve. Continuing decentralization may also result from the tendency of small units to link their contracts to the arbitrated settlements of larger units. Such pattern-setting may lead to de facto centralized bargaining despite a decentralized system, a description that has been applied to the Ontario hospital sector (Adams, Beatty, and Gunderson 1982).

Management structure

Just as union structure may adapt to the requirements of arbitration, so may management structure and actions. In particular, management needs to place less emphasis on the ability to deliver essential services in case of

a strike and more on the preparation of information for arbitration and anticipatory negotiation. With employers, as with unions, the result may be more centralization of effort, possibly leading to formal accreditation whereby one unit acts as the bargaining agent for a number of public-sector employers.

To the extent that arbitration leads to more uniformity of settlements, reduced dispersion in wages, and 'catch-up' when it is first introduced, management must adapt to these conditions. It may have less flexibility in using the pay structure to provide incentives and hence need to use other devices to attract and retain workers.

Political and legal inputs

The political and legal environment within which collective bargaining occurs is an important input into the process in the public sector. When strikes are a possibility, unions often try to do an end-run around the bargaining process, appealing directly to the public and politicians. Both parties also try to manipulate public opinion. Arbitration reduces such activities. However, the ultimate source of funds (taxpayers through government) is still an important determinant of the ability to pay, so the political realm remains important. Also, both workers and employers redirect energy towards trying to change the statutes and legal framework within which collective bargaining under arbitration occurs; this shift may dictate more centralized or at least co-ordinated efforts from units on both sides.

Some commentators have expressed concern about the lack of political accountability in the arbitration process in the public sector. Arbitrators, who are not directly accountable to the public through the political process, make essentially political decisions that redistribute resources within government and affect taxes and the quantity and quality of government services (Horton 1975, 500). The potential danger is that politicians may favour arbitration to the extent that it removes direct responsibility for strikes and large wage settlements that lead to tax increases or to reductions in public services elsewhere. In contrast, to the extent that the voting public becomes concerned about wage determination in the public sector - and this seems to be a current issue - there is pressure for political intervention in the process. The current public-sector wage controls are an example of a political reaction to the wage-determination process, including arbitration.

Summary

Arbitration has a theoretical impact on the bargaining process, bargaining outcomes, and inputs into the bargaining process. The empirical literature does not yield conclusive results about the actual effects on the bargaining process; in fact, there is still considerable debate over the appropriate methodology for testing for it. There is some evidence that the availability of arbitration makes the parties dependent upon it (narcotic effect) and discourages concessions and bargaining (chilling effect); however, the available evidence does not allow one to say that arbitration destroys collective bargaining.

With respect to the effect of arbitration on wages, the empirical evidence is also inconclusive and fraught with methodological problems. In general, arbitration seems to yield a slight upward bias to wages, reduced wage dispersion, and settlements that are highest when it is first introduced. Some limited evidence also suggests that arbitrators do not pay attention to labour-market conditions (a finding consistent with the evidence on upward bias and reduced dispersion), that they are conservative in innovating on non-wage items, and that arbitration does not have spillover effects on the private sector. The evidence also indicates that arbitrated settlements seldom result in strikes; those that do occur are of short duration.

Although empirical evidence is not available on the effect of arbitration on bargaining inputs, by providing unions with an alternative to the strike it seems to make them more palatable to professional and white-collar workers and thus is likely to increase the demand for unionism. In addition, arbitration's emphasis on reasoned arguments and factual information is likely to lead to the use of more professional staff and a greater degree of centralization on the part of both unions and management.

5

CRITERIA USED IN ARBITRATION

Given the need to decide the terms of a new contract on some rational basis, the question of the appropriate criteria for use in arbitration becomes paramount. Recently, the selection of criteria has become increasingly prominent as policymakers in various Canadian jurisdictions have begun to promote specific criteria. This section outlines and evaluates common criteria and their rationales; it relies heavily on material in Gunderson (1977).

Although precise documentation is not possible, the main criteria used by arbitrators usually fall into one of the following categories: comparability with settlements elsewhere, especially in the private sector; the cost of living, especially with respect to inflation; the employer's ability to pay; productivity; and minimum living standards. In general, this list is in descending order of usage, with comparability being by far the most important criterion.[1]

Comparability

The rationale for using comparability as a major criterion rests largely on the notion that arbitration should emulate the conditions that would prevail if it were not necessary - that is, if the workers were not in an essential sector and so did not have inordinate bargaining power when the right to strike is allowed and very little when it is denied. According to Arthurs' often-cited statement:

> Arbitration is made to substitute for the strike and should therefore likewise be an exercise in discovering labour market realities. This being so it is to relevant wage comparisons that we must look, rather than abstract notions of justice. (1965, 6)

Comparability does appeal to our sense of justice, however, in the sense of promoting the like treatment of equals (that is, horizontal equity). It also has an efficiency rationale to the extent that market forces determine the wages of the comparison group.

In practice, however, using comparability may present several problems.[2] One arises when there are few private-sector counterparts - often the case for groups that use arbitration, such as police, firefighters, teachers, and hospital workers. Comparison with other public-sector groups runs the risk of relying upon wages determined by, negotiated under the threat of, or influenced by arbitration, none of which may reflect labour market realities.

Another problem is that comparability requires comparisons of total compensation - wages plus such factors as fringe benefits, working conditions, job security, deferred compensation, and the training component of jobs. Such comparisons require information not only on the magnitude of each of these components but also on how the parties evaluate them in the sense of the trade-offs involved. These judgements are very difficult to make.[3]

The use of comparability also requires difficult judgements about such factors as the appropriate comparison group (for example, all other employers, union or non-union sectors, only competitive sectors), the appropriate regional, industrial, and/or occupational dimensions for comparisons, the appropriate measure of the central tendency of comparable wages (for example, average, median, mode, or fourth quartile), and the appropriate measure (for example, wage levels, absolute changes, or percentage changes).

In spite of these problems, comparability remains the criterion most often used by arbitrators. Moreover, when statutes spell out arbitration criteria, it is invariably amongst those specified and is usually listed first.[4] The search for other viable criteria is intense, however, particularly since arbitrated settlements have come to dominate some sectors, making private-sector counterparts difficult to find.

Cost of living

Arbitrators usually pay close attention to inflation and the local cost of living, largely as factors that influence real compensation. The presumption is that employees can expect a settlement that at least keeps up with

cost-of-living changes.[5]

As a criterion for arbitrated settlements, the cost of living has an efficiency rationale only insofar as using it ensures appropriate real wage adjustments. If it hinders them - perhaps because it is regarded as automatic - it can impede the efficient allocation of labour (which is appropriately based on real wages).

Using a cost-of-living criterion appeals to equity in that it compensates workers for inflation to which they may not have contributed. Moreover, in times of a rising aggregate price level, it is likely that the wages of individual taxpayers are increasing as are the prices of private-sector firms, both of whom will ultimately pay for public-sector settlements. Thus, in times when the economy is experiencing substantial real growth, automatic compensation for inflation can be regarded as a reasonable floor upon which arbitrated settlements would likely build.

In times of slow or negative growth, like the present, such automatic compensation for inflation may, of course, have to be reassessed. Yet there is not much economic sense in an arbitrator's curbing the wages of one specific group to help combat inflation. Inflation is an aggregate phenomenon to be dealt with by aggregate policies, not by singling out a group whose contribution to inflation is at most infinitesimal. Although most economists would disagree, there may be a plausible anti-inflationary argument for aggregate wage controls for all workers, possibly even just all those in the public sector. However, to use arbitrated settlements to force particular groups to bear the burden of combatting inflation is certainly not equitable, and it is likely to be counter-productive by interfering with the allocative function of the wage structure.

Ability to pay

Using the employer's ability to pay as a criterion may have pragmatic appeal for an arbitrator because it can influence management's resistance. Nevertheless, it has little economic rationale. A public-sector employer may appear to be able to pay premium wages for various reasons: it has ultimate taxing power or can use deficit financing; it receives transfer payments from other levels of government; it has undertaken cost-saving innovations elsewhere; or the wealth of its community gives it a substantial tax base. Nevertheless, no efficiency rationale exists for tying wages directly to the ability to pay unless it is simply a proxy for demand (for

example, a wealthy community may want to pay high wages to attract high-quality workers). In fact, tying wages to a high ability to pay can have a seriously adverse allocative effect by requiring higher wages from employers that have undertaken cost-saving innovations (thereby discouraging such innovations) or that are in communities with a high tax base (although the desirable working conditions of such communities would dictate lower wages to compensate).

Obviously, the converse also holds. That is, arbitrators should not require employees to subsidize (and thereby encourage) employers that have a low ability to pay because of mismanagement or because the service requires a public subsidy to exist. The rationale for a subsidy is a separate issue; if merited, it should come from public funds, not from specific employees.

Of course, concession bargaining may go on in the public sector as well as the private. Concessions from workers may be necessary to preserve the economic viability of the employer and/or some public-sector jobs. In such circumstances, however, the ability to pay actually reflects demand and becomes similar to the criterion of comparability with the private sector, where such concessions are presumably also occurring.[6]

Productivity

Arbitration awards often are based on the inflation rate plus some measure of the productivity increase in the economy as a whole, the rationale being that the real wages of workers should increase with productivity as a way of sharing the gains it brings. This formula can, however, create problems of efficiency. Granted that in the aggregate, it may not change the shares of output going to various groups or generate any inflationary pressure. However, it does not necessarily reward the source of the productivity increase and hence may not encourage further increases. A general real wage increase may be appropriate if the productivity increase emanated equally from all inputs (in the absence of other information, this may be an appropriate assumption). Clearly, however, it can overcompensate inputs that made no contribution to the productivity increase and undercompensate those whose contribution was above average.

If the productivity increase did not emanate from any readily identifiable source (that is, if it can be considered exogenous), the appropriate response would seem to be aggregate price reductions to benefit all con-

sumers, not just those working for a wage. And if a particular source can be identified,[7] the appropriate response is to award that source with a corresponding wage increase. (This situation would arise if, for example, a productivity increase were associated with specific workers' giving up a featherbedding rule, acquiring human capital, progressing through the ranks, or accepting technological change that adversely affected working conditions.) Wage increases to compensate for such specific productivity would encourage further productivity increases.

Minimum living standards

Ensuring a minimum standard of living has not been a common criterion in arbitration, but the Ontario hospital sector has seen some evolution towards it with the use of community living standards and poverty lines (Hines 1972; McConnell 1970). To economists, the problems of trying to reduce poverty through artificially raising the wages of low-wage workers are well known. Wages are only one component of a family's lifetime wealth, and raising the wages of one member of a poor family is unlikely to do much to reduce its poverty. Meanwhile, the policy raises the wages of workers who are not poor as well as those who are. It may also have the perverse effect of reducing employment opportunities for the poor as employers substitute other inputs or processes (capital, other labour, contracting out) for those workers whose wages are set artificially above market levels.

Thus, using a minimum standard of living as a criterion for arbitrated settlements is at best likely to be a clumsy device for reducing poverty and at worst may be perverse. It seems best to allow wage rates to serve their allocative function and to use alternative mechanisms, including the tax and transfer system, to achieve distributional objectives.

Summary

The main criteria used by arbitrators, in descending order of importance, are comparability, the cost of living, the ability to pay, productivity, and minimum living standards. Most of them, however, have problems associated not only with their practical application but more seriously with their theoretical appropriateness, at least from an economic perspective.

6

PROPOSALS FOR IMPROVEMENT

Given that interest arbitration is important, that its prominence is relatively new, and that, therefore, it is still evolving and in a state of flux, a potential for improvement is likely. Chapter 2 included suggestions for more experimentation with alternative forms. This chapter considers other possibilities for improvement: the greater use of disequilibrium quantity measures as a way of injecting market criteria into the process; the use of complementary policies to help arbitration achieve more desirable outcomes; and policies to inform the public.

Disequilibrium quantity measures as a possible criterion

As demonstrated in the previous chapter, all the criteria now in general use in interest arbitration have practical or theoretical disadvantages; many have both. Thus, arbitrators and policymakers search for better standards to use in setting compensation that is equitable and practical.

A guide can be found in the basic principles of economics, which suggest that arbitrators can use measures of disequilibrium on the quantity side as a proxy for disequilibrium on the wage side. That is, wage rates that are too high, relative to their private-sector counterparts or for the requirements of the jobs, result in excess supplies of workers for those jobs. Conversely, wage rates that are too low result in shortages of workers. Provided any such disequilibrium can be quantified and measured, an arbitrator can use it as a criterion for a settlement.

Such disequilibrium quantity measurements can be obtained with relative ease. One measure of supply is the number of applicants relative to the number of jobs. Another is the quit rates (a measure that has the advantage of counting only workers who have been judged qualified to do the relevant jobs). Indirect evidence of disequilibrium also exists. When

above-market wages result in an excess supply of labour, job rationing is likely; it may be manifested in discrimination,[1] nepotism, high union or professional dues, and unneccesary job requirements. Signals of excessively low wages include high rates of absenteeism and tardiness and other manifestations of low morale. Any or all of these phenomena can be used by an arbitrator as a signal of disequilibrium and those that are measurable can serve as a criterion for settlement.

One virtue of such disequilibrium quantity measures is that they do not require the arbitrator to evaluate all the non-wage aspects of a job in setting compensation for it. When workers vote with their feet by attempting to obtain jobs or leave them, they evaluate all the components of compensation - fringe benefits, the cost of living, job security, and working conditions (perhaps those associated with productivity change), as well as wages. This consideration is important since evaluating such non-wage differences is a crucial issue in determining appropriate wage awards, especially when public-private sector comparisons are involved. Another advantage is that workers' actions indicate their own relative evaluations of public- and private-sector jobs, even when they are not directly comparable; hence, the disequilibrium quantity measures do not require finding private-sector counterparts or making comparisons within the same region. Also, such measures reflect the employees' perception of the long-run worth of particular contractual arrangements. They are not unduly influenced by a single anomalous contract whose results can be expected to be transitory and rectified over time.

Potential problems of using disequilibrium quantity measures

Some potential problems are, of course, associated with the use of disequilibrium quantity signals. For example, when high unemployment produces long queues of applicants, their use of disequilibrium measures might result in low arbitrated settlements irrespective of the magnitude of non-arbitrated settlements. Such need not be the case, however, if arbitrators use the relative, not the absolute, magnitudes of the disequilibrium measures. (The relative magnitude of the queue may also be pertinent if society agrees that public-sector workers should be compared with specific private-sector groups, such as the unionized sector, which may themselves have substantial queues.)

The use of disequilibrium quantity measures may also seem employer-

oriented in that they dictate relative wage reductions in the case of surpluses and increases in the case of shortages - both moves that are in employers' interests (in theory, they want to reduce shortages even if it means increasing wages). Again, the use of relative measures means that wage reductions are not required every time there is a sign of excess supply. Moreover, even when shortages prevail, public-sector employers may not always favour a rise in wages. For example, political constraint may replace the profit constraint of the private sector, so the efficient reduction of shortages need not always occur. Also, some public-sector employers are so large relative to the size of the local labour market that they are monopsonists and hence wage-setters rather than wage-takers.[2] If they raise wages to reduce job vacancies, they also have to raise the wages of their existing work force, an action they are unlikely to take voluntarily. (This is so even though an arbitrated wage settlement that reduced the vacancies to zero would be welfare-maximizing in the sense of setting wages equal to the value of the marginal product of labour.)

Problems in obtaining and using data can also interfere with disequilibrium quantity measures. Employers may be able to maintain almost exclusive access to data on their particular shortages, surpluses, and turnover. Also, aggregate information may not always be available for comparisons between the bargaining unit under arbitration and other groups. Nevertheless, some aggregate data are available, and comparisons can be made within the same unit over time or with other select groups. For example, data showing a change from ten applicants per vacancy to one applicant per vacancy can certainly be taken as evidence that relative wages in that unit have eroded over time. Similarly, evidence of, say, ten applicants per vacancy in a police force and two per vacancy among the same municipality's firefighters can certainly be used to question the efficiency of parity between the police and the firefighters.

A final group of problems arises from the difficulties inherent in measuring the supply in any given labour market. Certainly, one must scrutinize the extent to which measured shortages or surpluses are an accurate reflection of true shortages or surpluses. This is a particular problem for situations in which the work force is not homogeneous, in which quality differences amongst workers and applicants are likely to prevail, or in which employers tend to downplay their wage offers in their recruiting efforts. Consideration must be given to the regional aspects of labour markets since consolidated bargaining may cover several regions

with various supply levels. Also, attention must be paid to the facts that different vacancy or shortage levels may be optimal in different environments and that disequilibrium can be reflected in subtle ways - for example, by the intensity of the work effort.

Nevertheless, these problems are not insurmountable. In some situations, there are already obtainable measures of disequilibrium that can provide obvious information on its extent. Moreover, if arbitrators explicitly used this criterion more often and if it were specified in arbitration statutes, one could be sure that employers and workers would develop better measures of their own and scrutinize each other's carefully. There would also be more pressure for the public provision of such information, rather than the current focus on wage surveys and estimates of non-wage differences.

Making the settlement

The use of disequilibrium quantity signals as a criterion still leaves the arbitrator with the problems of how to decide what magnitude of award will attain relative equilibrium, how to structure the award's mix of wage and non-wage items, and how to evaluate that mix in arriving at a total compensation figure. For example, knowing that the number of qualified applicants has tripled since the last settlement and that it is four times as high as the application/vacancy rate in a comparable sector may tell the arbitrator to scale down the award, but it does not indicate by how much or in what mix of wage and non-wage items.

Final-offer procedures can help in this regard. Under total-package final-offer selection, the arbitrator does not have to decide the appropriate mix of wage and non-wage items or the precise magnitude of the award. The parties themselves have already made the required trade-offs. Using disequilibrium quantity signals as a criterion, the arbitrator has only to choose the award most likely to reduce the shortage or surplus. If both parties have correctly interpreted the disequilibrium quantity measures, their final offers are probably already close to each other, making it more likely that they will settle before arbitration and that the award will be workable if arbitrated. The final offers will also probably be close to the magnitude necessary to correct the disequilibrium, ensuring that total compensation will be comparable and hence in equilibrium. Thus, final-offer selection and the criterion of disequilibrium quantity measures are

likely to be highly complementary policies.

Conclusion on disequilibrium quantity measures

In summary, the increased use of disequilibrium quantity measures could certainly supplement the existing criteria for making arbitrated settlements. In many cases, it could substitute for them since such measures reveal both parties' market assessments of many other criteria, notably appropriate comparability and living costs and the effect of productivity change on working conditions. The problems associated with the use of disequilibrium quantity measures are not insurmountable; they are probably less than those associated with other criteria now in use because the measures can be based on evaluation by those most capable of evaluating the situation - the market participants themselves. At minimum, disequilibrium quantity measures deserve more attention than they have been given in the past,[3] especially as a complement to final-offer selection.

Complementary policies

Implementing various other policies could also help arbitration achieve more desirable outcomes. Earlier parts of this study have alluded to several proposed policies; this sector deals specifically with them, the main ones being: providing arbitrators with more objective information; requiring a written statement of the rationale for an award; introducing job evaluations into the information provided arbitrators; training arbitrators for their task; upgrading arbitrators' fees; and better informing the public about arbitration.

Data bank and information service

The need for objective information upon which arbitrators can base their decision is obvious. The information they require can often be complex, involving such elements as comparable wages, fringe benefits, and job conditions as well as trade-offs amongst the components of compensation. Depending upon the criteria being used, arbitrators may also need information on the cost of living, productivity, minimum living standards, and the employer's ability to pay.

Such information can be difficult to obtain, and the need for ready,

objective sources for more of it has been expressed by several arbitrators who have considerable experience in both practice and analysis (for example, Glasbeek 1976, 70, 74; Swan 1978, 11). The Johnston Commission recommended the establishment of a data resources centre as 'not only desirable but necessary for the successful rehabilitation of compulsory arbitration in public hospitals' (Ontario 1974, 48).

The provision of more information might do more than help arbitrators; it might also encourage the settlement of some disputes before they go to arbitration since the parties concerned would be less likely to reach an impasse because of misinformation. For this reason, one prominent arbitrator has suggested expanding the idea of a public data bank to an independent tribunal that would provide the relevant information early in the negotiation process, before the positions of the parties harden and arbitration is necessary. He suggests:

> We might well ask whether our arbitration system, which imposes an award on parties who have exhausted each other with argument and counter-argument, does not start too late in the process to achieve any result except a compulsory end to bargaining. Would a tribunal, available to supply technical and research assistance to both sides of a dispute evenly and independently, work in the Canadian context? (Swan 1981, 281).

Whether or not one wishes to go that far, it is difficult to deny the need for a comprehensive data bank in Ontario. Yet at the provincial level, one does not exist that covers all public sectors. (For teachers, the Education Relations Commission does have a data bank that plays a major role in negotiations, and for federal employees, the Pay Research Bureau provides information on wages and certain fringe benefit provisions that can be used for total compensation comparisons.)

Could the public provision of such a data bank be justified economically? To a certain extent one can rely upon the parties concerned to provide relevant information and upon each to act as a check on what the other provides. Information is costly, however, and the parties may not have sufficient incentives to provide enough of it.[4] To the extent that the market provides a suboptimal amount of information, the government has a role to play in providing it, paying from general tax revenues or from a levy on the sectors that will use the information.

It is worth noting, however, that a public data bank would not have to contain all the information proposed for it. The information needed for arbitration depends on the criteria being used, and as we have already

argued, several of those now being used are not really appropriate. If this argument is accepted, information needs are reduced. Furthermore, if disequilibrium quantity measures were used as a bottom-line criterion, an information centre would focus on gathering data for and developing appropriate disequilibrium quantity measures.

Written awards and statements of rationale

An information centre could also serve as a reference centre for the filing of copies of arbitrated settlements, which could be used as references and would perhaps have precedent value for subsequent awards. The value of these settlements would be enhanced if they all contained statements of the arbitrator's reasoning in making them. Requiring that the written awards contain rationales might also provide pressure to improve the quality of arbitrated settlements.

Requiring an explicit written statement of the rationale for the award is not a new idea, and some analysts see potential disadvantages in it. Some practising arbitrators would strongly prefer not to have to make their rationales explicit (Mironi 1977, 125), so the requirement might make undertaking interest arbitration even less attractive to them than it is now.

A theoretical objection is that a body of explicit rationales would remove some of the uncertainty associated with going to arbitration, reducing the incentive to risk-averse parties to settle before arbitration. This argument has several problems. First, if uncertainty is so desirable, why not extend the logic and make outcomes completely uncertain by requiring only unqualified arbitrators or by not allowing the parties to present their cases. Second, uncertainty may simply put more bargaining power in the hands of the party that is less risk averse (probably the employer), leading it to revise its offer downwards and thus reducing the possibility of a settlement without arbitration. Third, greater certainty about arbitrators' references may encourage the parties to settle before arbitration and save its cost (Bruce 1981; Swan 1978). (In the extreme, if the parties knew with certainty what the arbitrator was going to award, they would simply settle for that in advance and save the cost of arbitration.)

Job evaluation

Formal job evaluations have been proposed as another kind of information that could help arbitrators shape an award (Swan 1981). The idea has considerable initial appeal because job evaluations divide jobs into their component parts, which can then be used to rank jobs. The procedure would thus obviate the need for comparability of complete jobs across the private and the public sectors; rather, arbitrators would only have to find counterparts for job components. Job evaluation has a history of use in the private sector and was used in the public sector in Britain, although without much success (Swan 1981). Also, it is part of job-ranking procedures in jurisdictions, such as the federal government, that require equal pay for work of equal value.

In spite of this superficial appeal, job evaluation is unlikely to provide a solution to the complexities involved in the search for interest arbitration criteria. It has its own complexities, which are likely to be greater than those of existing criteria, and its use in the private sector has been mainly in providing an ordinal ranking of jobs, rather than a cardinal measure that indicates their intrinsic worth. Thus, it would be unlikely to provide an arbitrator with much information about whether to set an award at, for example, 10 per cent or 12 per cent.

Training of arbitrators

Arbitrators are usually lawyers, and while their training is admirably suited for grievance arbitration, which involves the interpretation of an existing legal document, some people question its suitability for interest arbitration, which involves establishing the terms of a new collective agreement (Cavalluzo 1981, 176; Horton 1975; Weiler 1981, 112). As starkly phrased by one experienced arbitrator:

> The one thing that the arbitration fraternity has in common is that we all know little or nothing about basic public finance, about the long-term impact on an employer's budget of apparently innocuous changes in working conditions, about the elasticity of demand for an employer's product, about the substitutability of capital for labour as proposed wage or benefit increases make labour more expensive, about the long-range costs of funding pension increases as the complexion of the work force changes, and about all the other material necessary for an intelligent response to the questions posed by the statutes or the parties. (Weiler 1980, 227)[5]

Even though lawyer-arbitrators themselves express such doubts, lawyers are probably the group most qualified to act as interest arbitrators. The parties involved can often choose or influence the choice of the arbitrator; the fact that lawyers continue to dominate the field suggests that they are at least perceived as the best-qualified group. Certainly, considerable knowledge of adjudication is often needed to shape a workable award from the offers of two parties and to interpret the precedents of past awards. Should particular expertise be required, surely lawyers are the persons best equipped to arrange for and interpret the information given by expert witnesses. Moreover, the evolving use of precedents in interest arbitration provides input from other disciplines - previous awards were not made in a complete vacuum. Arbitration panels also offer opportunities for representation from various disciplines.

The use of disequilibrium quantity signals as bottom-line input would also help with arbitrators' problems of expertise. Using such criteria would minimize or eliminate the need for expertise in fields such as public finance (to determine communities' ability to pay), organization behaviour (to interpret job evaluation schemes), or economics (to estimate total compensation for comparable jobs). In fact, the desire for more expertise in the complex areas of compensation seems misguided; what is needed is the use of conceptually correct measures that can be readily understood and interpreted by the parties and by arbitrators. Disequilibrium quantity signals would provide such a measure.

Paying arbitrators

Whether the training of arbitrators is enhanced or the complications of their task reduced by the use of disequilibrium quantity measures, it is clear that fixing their fees runs the risk of making interest arbitration unattractive to quality arbitrators. Even more likely to cause problems is paying fees that tend to be less than those given grievance arbitrators. Yet regulation 503 of the Ontario Hospital Labour Disputes Arbitration Act fixes the pay of chairmen at $275 per day and of board members at $150. Given the size of Ontario's hospital sector and the importance of interest arbitration there, the removal of this fee ceiling is a policy option that merits serious and prompt consideration.

Wage boards

As noted in Chapter 2, elaborate, permanent wage boards or councils have not been characteristic of North American labour relations. Christensen (1980a, 1980b) has, however, advocated them for the Canadian public sector as an alternative to the strike and to the existing system of limited arbitration.

The argument is that such boards could develop more systematic and comprehensive knowledge of the whole public sector than is possible for individual arbitrators. The resultant injection of greater rationality and uniformity would lead to more desirable outcomes, especially fewer strikes and less inflationary settlements in the public sector.

Such wage boards, however, would have their problems. Uniformity means less innovation and experimentation - and the existing arbitration system has already been accused of not being innovative enough. Moreover, evidence from Australia (and from wartime North America) shows that when wage boards determine compensation in most of the private and public sectors, they certainly do not eliminate strikes or the possibility of inflationary settlements. They also have the aura of being a mechanism for curbing public-sector settlements, a policy that is subject to legitimate debate and probably should not be imposed under the guise of a rational wage-setting mechanism. If better performance and comprehensive information are desired, the goal can be accomplished through modifications of the existing system. (That permanent panels do not seem to emerge over time in situations where the parties themselves can influence the choice of arbitrator suggests that permanence is not always valued.)

Rather than imposing wage boards as a seemingly simple solution to an essentially complex set of issues, a more sensible policy alternative would be to allow the existing arbitration arrangements to acquire greater centralization if the parties themselves seem to want it. This process could be aided by having available a centralized data bank, information services, and possibly a tribunal to provide technical information and expertise early in the bargaining process. Given this situation, if disputing parties begin to use certain arbitration panels frequently they could evolve into formal, permanent wage boards. This solution is likely to be more workable than one imposed from the top.

Informing the public

The need for more information and expertise is not restricted to disputing parties and arbitrators but extends to the general public (and hence to the media). They are the ultimate consumers of the services of workers whose wages are set by arbitration, and they ultimately pay, usually through taxes.

Just as the operation of the private market requires a degree of sophistication on the part of consumers, so the success of interest arbitration requires a degree of sophistication on the part of the general public. At present, the public often seems aware of only those arbitrated settlements that avert a particularly obvious strike, legal or illegal, or involve a particularly high award. (Those situations are, of course, the ones that receive media attention.) A better-informed public would, however, exert pressure to ensure that awards are not out of line one way or another; this, in turn, would reduce the need for unusually high settlements that reflect a catch-up or unusually low settlements that allow for the dissipation of high past awards. The information need not be incredibly complex or require detailed knowledge of public financing or accounting. As argued previously, the use of disequilibrium quantity signals could be based upon information readily understood by the general public.

To a certain extent, public knowledge of arbitration will increase automatically as this method of dispute-settlement becomes more prevalent and as all public-sector bargaining develops a longer history. In addition, provision of a data bank and information service and requiring inclusion of the rationale in a written award would provide more information to the general public as well as to arbitrators and the bargaining parties. Again, the result would likely be more pressure for arbitrated awards to be workable - for the general public as well as for the parties directly involved.

7
SUMMARY, POLICY SUGGESTIONS, AND RESEARCH NEEDS

The greater role of collective bargaining in the public sector, along with public concern about strikes and public sector wages, has sparked increased interest in the use of interest arbitration as an alternative to the strike in determining public-sector compensation. Interest arbitration is now an important and growing phenomenon in Ontario, as in all of North America. By statute, it is the ultimate method of dispute-resolution in public sectors that include 15 to 25 per cent of all collective agreements and employees covered by collective agreements in the province. These employees include such important groups as hospital workers, police, firefighters, and Crown employees. In addition, teachers have a specific provision for voluntary arbitration in their collective bargaining act. Municipal employees are covered under the private-sector Labour Relations Act, and although they have the right to strike, compulsory arbitration is occasionally invoked on an ad hoc emergency basis. Federal employees in Ontario are covered under the Public Service Staff Relations Act, which provides them with a choice of an arbitration or strike route.

Usage rates (that is, the proportion of contracts that actually end in arbitration) vary considerably by sector and over time. Usage rates in those sectors where compulsory arbitration is specified by statute were 46 per cent in 1981 and 26 per cent in 1980. Usage rates were slightly lower in those sectors specifying voluntary arbitration by special statute, and they were almost nil in the private sector under the Labour Relations Act. Overall, in all sectors, arbitration was used to establish 4 to 11 per cent of all agreements. These figures, however, vastly understate the importance of arbitration since many negotiated settlements reflect arbitrated ones.

Given the size and the essential nature of the industries in which interest arbitration is required and given its usage rates, it is imperative

that interest arbitration work well.

Although numerous forms of binding interest arbitration are possible, such arbitration in Ontario is dominated by conventional arbitration as opposed to final-offer arbitration in any of its variants, including issue-by-issue, multiple final offer, repeat offer, or modified final offer. Final-offer procedures have the virtue of encouraging the parties to reach a negotiated settlement and to submit reasonable final offers; however, this is attained at the possible cost of an unworkable award. Moreover, the various modifications of final-offer selection, which attempt to yield a more workable award should negotiations break down, may discourage the very purpose of final-offer selection - to encourage negotiation and the submission of reasonable offers.

Clearly, policy trade-offs are involved. While answers to these trade-offs are not obvious, it seems desirable to have more experimentation with the various options and more monitoring of these experiments, including those from the United States, where the variety of forms of arbitration have seen more usage.

Statutory requirements for interest arbitration vary considerably across the various jurisdictions in Canada. Although most provinces do not require arbitration for as many groups as does Ontario, all require it for some elements of the public sector. The patterns are not uniform, nor do they appear consistent in the sense of requiring arbitration in the sectors providing the most essential services. This diversity of arbitration patterns is characteristic of the general diversity of arrangements for collective bargaining and dispute settlement in the public sector. It reflects the political nature of such bargaining and the fact that public-sector bargaining in general - and interest arbitration in particular - is in a state of flux.

Arbitration can have an impact on the bargaining process, on bargaining outcomes (notably wages and strikes), and on inputs into the bargaining process (notably unionization and union structure, management structure, and political and legal inputs). With respect to the bargaining process, the empirical literature does not yield conclusive results; in fact, there is still considerable debate over the appropriate methodology for testing the impact of arbitration on the bargaining process. Some evidence suggests that the availability of arbitration makes the parties dependent upon arbitration (the narcotic effect) and that it discourages concessions and bargaining (the chilling effect); however, neither the methodology nor

the preponderance of evidence would enable one to say that arbitration destroys collective bargaining.

With respect to the effect of arbitration on wages, the empirical evidence is also inconclusive and fraught with methodological problems. In general, however, arbitration seems to yield a slight upward bias to wages, reduced wage dispersion, and settlements that are highest when arbitration is first introduced and weaker units catch up. Some limited evidence also suggests that arbitrators do not pay attention to labour market conditions (which is consistent with the previous evidence on an upward bias and reduced dispersion), that arbitrators are conservative in innovating on non-wage items (which may explain some of the upward bias in wages as compensation for the conservatism in non-wage items), and that arbitration does not have spillover effects on the private sector. The evidence also indicates that arbitrated settlements seldom result in strikes and that those that do occur are of short duration, usually serving as a signal of dissatisfaction with the award.

Although empirical evidence is not available on the effect of arbitration on bargaining inputs, it is likely to increase the demand for unionization by providing unions with an alternative to the strike, which, in turn, makes them more palatable to professional and white-collar workers. In addition, arbitration's emphasis on reasoned arguments and factual information is likely to lead to the greater use of professional staff and a greater degree of centralization on the part of both unions and management.

The main criteria used by arbitrators are, in descending order of importance, comparability, cost of living (especially with respect to inflation), ability to pay, productivity, and minimum living standards. In general, each of these criteria have problems associated not only with their practical application but more seriously with their theoretical appropriateness, at least from an economic perspective.

Policy suggestions

The use of disequilibrium quantity measures of labour shortages and surpluses has been advanced as a supplement to - perhaps a replacement for - the criteria that arbitrators now tend to use. More use of such measures would be theoretically appropriate. It would also be practical since they do not require arbitrators to attempt the near-impossible task of

evaluating all the relevant wage and non-wage information in arriving at an award. Rather, the evaluation is done by market participants - the people for whom the evaluation is most relevent. Their resulting actions yield the disequilibrium measures.

The use of disequilibrium quantity measures presents some potential problems, but they are solvable. Certainly, they are no more severe than those that arise from the existing criteria, and they would be lessened as use increased.

Using disequilibrium quantity measures does leave the arbitrator with the problem of how to structure the mix of the award between wage and non-wage items and how to arrive at the proper magnitude to ensure relative equilibrium. Here, final-offer selection can provide a solution. It allows the parties themselves to decide the appropriate mix. The arbitrator does not have to worry about the award's precise magnitude because the decision can be in favour of the party whose offer comes closest to yielding equilibrium on the quantity side (and hence on the compensation side). Thus, final-offer selection and the use of disequilibrium quantity measures are complementary, and they deserve further consideration independently or, preferably, together.

Other proposed policies could improve arbitration's effectiveness. Arbitrators and commissions have recommended a data bank and an information service for arbitrators; there is economic justification for the public provision of some such information. Requiring a statement of the rationale for each award would enhance its value as a precedent and provide pressure to improve the quality of awards. The provision of formal job evaluations has also been suggested as a way of helping arbitrators determine the worth of jobs; however, such evaluations have their own associated problems. Wage boards have been proposed as a means of introducing more rationality and uniformity to the arbitration process; imposing such boards seems unwise, but permanent panels might be allowed to evolve if unions and management seem to want more centralization. Training arbitrators, who are usually lawyers, in some of the basic aspects of public finance and economics has also been suggested by arbitrators themselves. Removing the ceiling on arbitrators' fees in the hospital sector could encourage the use of high-quality arbitrators. Informing the public and the media of the intricacies of arbitration decisions could also be important; it would meet part of the larger requirement of better informing the public and the media about public-sector collective bargaining in general -

an important need given the political nature of such bargaining.

Implementing some of these policies, many of which would be complementary, could certainly provide benefits. Those benefits must, however, be assessed against actual costs. Moreover, the need for many of these policies would be vitiated by the use of disequilibrium quantity signals as an arbitration criterion. Job evaluation would be redundant (it would be done by the market principals). The training of arbitrators and the education of the public in anything but the interpretation of such measures would be unnecessary. The data bank and information service could concentrate on the measures; the rationale in written awards could focus on their intepretation. Thus, the use of disequilibrium quantity measures stands out as a particularly appropriate and practical policy option that deserves more analysis and debate.

Research needs

This study has alluded to economic aspects of arbitration, theoretical and practical, that need further research. On the theoretical side, it would be informative to know the welfare properties of the various forms of arbitration, especially the variants of final-offer selection. Similarly, more theoretical and empirical information is needed about the costs and consequences of alternative dispute-settlement procedures, especially about the extent to which the bargaining parties internalize third-party effects. This information would be necessary to ascertain, for example, the extent of strike activity that can be considered socially optimal and whether public policies can induce the parties to internalize the costs to third parties. Empirical evidence is also needed on the magnitude of wage-benefit trade-offs in collective agreements. Such evidence is important for calculating the true cost of such settlements, for making public-private wage comparisons, and for ascertaining the extent to which unions may be willing to give up wages in one period (say, by wage controls) in return for other concessions (say, union security provisions) that would enhance their bargaining power and help them obtain concessions in subsequent periods.

Basic descriptive information on the actual use of various arbitration criteria, over time and across sectors, would also be informative. Content analysis of various awards could provide both quantitative and qualitative information on the use and relative importance of different criteria. Addi-

tional theoretical and practical information about disequilibrium quantity measures would also be helpful. Theoretical information is needed to ascertain their properties in a second-best world constrained by market imperfections and high aggregate unemployment. Practical information is needed on the extent to which readily usable disequilibrium data could be obtained or made available to the parties.

Such information is needed for a better understanding of interest arbitration. The phenomenon is large and growing, and it is likely to take on increased importance in the search for better ways to deal with wage determination and dispute resolution in the public sector.

NOTES

Chapter 1

1 The issues involved in arbitration as a strike substitute are important not only in their own right but also because they are relevant to any policy discussion of situations in which wages are fixed by legislative *fiat* rather than by market forces. Thus, many of the issues are also relevant to equal-pay and minimum-wage legislation (Ontario's Employment Standards Act), to the determination of fair wages for government contracts (Ontario's Government Contracts Hours and Wages Act), and to the extension by decree of wages throughout a particular industry (Ontario's Industrial Standards Act).

Chapter 2

1 Occasionally a contract does exist but the parties agree to re-open it. Items resolved by interest arbitration during the terms of collective agreements have included wages, technological change, electronic surveillance, and two-person patrol cars for police.

2 Of course, as in law, intepretation and application can involve considerable formulation and precedent-setting (see Brown 1970, 6).

3 That is, courts will enforce arbitrators' awards. The grounds for overturning an arbitrator's award are quite limited and usually pertain to the right of an elected body to delegate budgetary authority (here, to an arbitrator). In practice, few awards are challenged.

4 A more extensive discussion of these forms of non-binding intervention is in Anderson and Gunderson (1982, 237-9).

5 Parallels exist on this side of the Atlantic when wages are set by *fiat* (for example, by minimum-wage or equal-pay legislation), are fixed in government contracts, or are extended by decree throughout an industry. However, such intervention is limited and quite different in form, and it is usually mandated by statute, not by an allegedly independent agency.

6 First-contract arbitration is of current policy concern because some Canadian jurisdictions (notably British Columbia, Quebec, Manitoba, and some federal industries) have recently required first-contract arbitration when a new union has been certified but the parties cannot agree to a first contract. This goal is to prevent stalling, which in

the past has led to a surprisingly large number of situations in which unions have been certified but were never able to establish a first collective agreement to provide a framework for subsequent bargaining. This raised the spectre of bitter organizing strikes and the possibility that employees who voted for collective bargaining would not get it. As reported in Strikes and Lockouts in Canada, the number of first-agreement strikes has exceeded 100 per year recently and an upward trend is apparent.

7 Such as the United States steel industry's 1974 Experimental Negotiating Agreement (Aaron 1975, 137) and some contracts in professional sports.

8 The extent to which the bargaining parties fully internalize the costs and consequences of the strike as a dispute-resolution procedure is an interesting issue in need of further research. Obvious differences exist in the private, public, and quasi-public (that is, regulated) sectors with respect to how third parties are affected and how the consequences of those effects feed back to the parties doing the actual bargaining. The relative absence of voluntary arbitration in the private sector is consistent with two competing hypotheses: 1) the parties themselves do not find strikes very costly, at least relative to arbitration; and 2) even in the private sector, third parties bear more of strike costs than of arbitration costs, and market mechanisms are not adequate to compel the bargaining parties to internalize these costs. These competing hypotheses have very different policy implications, but unfortunately, we do not have theoretical or empirical knowledge sufficient to judge which is correct. In fact, the costs and consequences of strikes as opposed to arbitration should really be viewed in the larger picture of the costs and consequences of the full spectrum of dispute-resolution procedures, including continuous joint bargaining, grievances, and market responses, such as turnover.

9 A formal welfare analysis of the Pareto optimality of the various arbitration options is beyond the scope of this report. Such an analysis would be useful, however, to determine if any procedures dominate others according to generally accepted criteria. It would also be useful to delineate precisely the trade-offs that are involved and the costs and consequences of alternative policies and procedures. Crawford (1979) has conducted such an analysis for final-offer arbitration, but he used the somewhat restrictive assumption that each party knows with certainty the other party's current offer and the arbitrator's preferences.

10 Thompson (1981, 89) does indicate that such closed-offer arbitration is practised by mutual agreement in British Columbia's education sector and that 'it is not unknown for arbitration boards to sign awards incorporating increases below those offered in bargaining'.

11 The blending of mediation and arbitration is usually thought of in the context of conventional interest arbitration. (It is, for example, the method used in first-contract arbitration in British Columbia.) It can, however, be used under final-offer arbitration. To the extent that the parties gain some notion of the arbitrator's preferences during mediation, their final offers are likely to be even closer. As

in conventional arbitration, however, reduced uncertainty of the expected arbitration award may have ambiguous effects.

12 For example, in New Brunswick, both parties must agree to the choice between arbitration and a 'limited-strike' route, and in Ontario under the School Boards and Teachers Collective Negotiations Act, the parties can mutually agree to final-offer or conventional arbitration.

13 The parallels with modern macroeconomic policy and the theory of regulation are obvious. In macroeconomics, policy initiatives of the government are often offset in full or part by the reactions of the market participants under regulation; government policies to protect the consumer are often used by those regulated for their own protection. More formal analysis may be desirable to determine the extent to which government policy initiatives in general and arbitration procedures in particular may be offset by the parties to the collective bargaining process.

Chapter 3

1 Conversely, both parties may prefer arbitration, but each may be reluctant to admit it in bargaining since the one that does so may have to give something up to the other in return.

2 Calculated from the number of agreements subject to arbitration given in Adams (1981, 140) and the number of arbitrated agreements given in Sack (1981, 75).

3 Downie (forthcoming) gives a detailed exposition of the evolution and procedures of this act, which is popularly known as Bill 100.

4 Recent examples of voluntary arbitration include CUPE Local 503 with the City of Ottawa and with the Regional Municipality of Ottawa-Carleton.

5 In Ontario, teachers who have voluntary arbitration have final-offer selection as an option (Sack, 1981, 41-45). Also, at least three Canadian universities (Carleton, Ottawa, and Alberta) and their faculty unions have mutually agreed to final offer selection on economic issues.

Chapter 4

1 Their reviews cover numerous Canadian studies, employing quantitative and qualitative techniques, including: Anderson (1979, 1981a); Anderson and Kochan (1977); Auld et al. (1981); Barnes and Kelly (1975); Cousineau and Lacroix (1977); Feuille (1975); Fisher and Starek (1978); Glasbeek (1976); Hines (1972); Ponak and Wheeler (1980); Subbarao (1977, 1978, 1979a, 1979b); Swimmer (1975); and Thompson and Cairnie (1973). Recent Canadian studies since their reviews include Saunders (1980) and Thompson (1981).

2 Without a viable process, for example, it is difficult to get the parties to reduce their usual laundry lists of initial demands into viable lists of leading demands to which they attach relatively great

importance and for which a relatively great possibility of acceptance exists. A union's list often involves items that have potentially severe cost implications for the employer (for example, demands for safety provisions) or that threaten managerial rights (for example, control of layoffs and job assignments). It may also include items that have political importance to a particular group of employees (for example, paternity and sabbatical leaves). The employer's initial demands may be equally extensive. Without a viable negotiating process, the parties may be unable to move from these bargaining demands to more realistic lists, which usually concentrate on pay and fringe benefits.

3 It is difficult to deal with some of these claims. How does one translate the concept of relative bargaining power into operational terms, especially when the main source of power - the strike - is banned or circumscribed? When the right to strike exists in the public sector, the workers may have inordinate bargaining power (even if they are reluctant to use it); when the strike is banned, they have little. In other words, it is difficult to apply the theoretical concept of relative bargaining power when that power is the primary reason for arbitration.

4 In such circumstances, however, the association effectively serves as a union; in fact, if its agreement designates it as sole bargaining agent, it usually receives full protection under the voluntary recognition provisions of the Ontario Labour Relations Act.

Chapter 5

1 Systematic data on the use and relative importance of the various arbitration criteria are not readily available since compiling them would involve content analysis of the various arbitration awards. However, the use of the various criteria is documented by Johnston in Ontario (1974) for Canada and Bernstein (1954) for the US.

2 Problems associated with the comparability principle are discussed in Brown (1970), Phillips (1975), and Starr (1969) in the Canadian context and in Fogel and Lewin (1974) and Koczak (1975) in the US context.

3 The hedonic technique used in econometrics could, in theory, be applied to estimate the trade-offs or shadow prices associated with each of the non-wage aspects of employment. Basically, the technique involves regressing wages on various non-wage aspects of the job, after controlling for all other wage-determining factors. The estimated regression coefficients indicate the change in wages associated with a unit change in the non-wage aspect of employment and hence can be interpreted as the shadow price - the wage that workers are willing to forgo in return for desirable non-wage characteristics or the wage premium they require to compensate for undesirable non-wage characteristics.

4 Wilkins (1973) outlines the quasi-official sanctioning of the comparability principle in Canada. He includes statements by Prime Minister St. Laurent in 1948 and Prime Minister Diefenbaker in 1958, references in Section 10 of the Civil Service Act of 1961, statements

by the Economic Council of Canada in its Third Annual Review of 1966, and the explicit requirement of comparability as a criterion in Section 68 of the federal Public Service Staff Relations Act.

5 Although with concession bargaining occurring in the private sector and with public-sector wage cuts now being proposed, it will be interesting to see if arbitrators continue to adhere to the practice of compensating workers for cost-of-living increases.

6 A recent variant is Alberta's Bill 44, which applies mainly to compulsory arbitration awards in the province's public sector. Among other things, it directs compulsory arbitration boards to consider 'any fiscal policies that may be declared from time to time in writing by the provincial treasurer'.

7 In many cases, identifying the source of a productivity increase may be very difficult, as may be identifying the indirect effects of productivity changes on working conditions. For example, improved productivity in airlines resulted from the introduction of jet engines and wide-bodied aircraft, neither of which could be directly attributed to the flight crews. The real wage increases that those workers obtained at the time were economically justified only if the productivity changes were associated with more onerous working conditions (perhaps because of greater responsibilities or training needs) or compensated for the increased uncertainty of job security.

Chapter 6

1 This would suggest, for example, that an arbitrator could use evidence of the exclusion of certain groups from high-wage jobs as indirect evidence of excessive wages in these jobs (in other words, the scarce high-wage jobs are being rationed by excluding certain groups from these jobs). Reducing wages in such situations could reduce employment discrimination. When faced with direct wage discrimination, however, the arbitrator faces a different dilemma.

2 This situation of monopsony and evidence of its existence in the teaching and nursing sectors are discussed in more detail in Gunderson (1980, 165-79).

3 As I have pointed out elsewhere, this neglect of disequilibrium signals is not all-pervasive (Gunderson 1977, 266). In fact, they are recognized in Section 68 of the Public Service Staff Relations Act in its reference to the public service's need for qualified employees, and they have been discussed by some labour market analysts, notably Lewin (1974, 150), Fogel and Lewin (1974, 427), and Hines (1972, 543).

4 The problem arises because information has many characteristics of public goods: once provided, it is equally available to all potential users, and the market cannot automatically extract payment from users to compensate those who incur the cost of providing it.

5 Ontario has recently seen some initiatives that could be extended to the training of interest arbitrators. For example, the Education Relations Commission trains mediators and fact-finders in matters such as public finance, and the Ontario Ministry of Labour has been train-

ing many non-lawyers as grievance arbitrators. The extent to which these initiatives could be extended to interest arbitrators in general is an issue that merits further consideration.

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